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HUMAN ANATOMY;

FORMING A COMPLETE SERIES OF

QUESTIONS AND ANSWERS

FOR THE USE OF

MEDICAL STUDENTS,

BY

MEREDITH REDMAN,

M.R.C.S., ENGLAND; L.S.A., &c.

QUESTIONS.

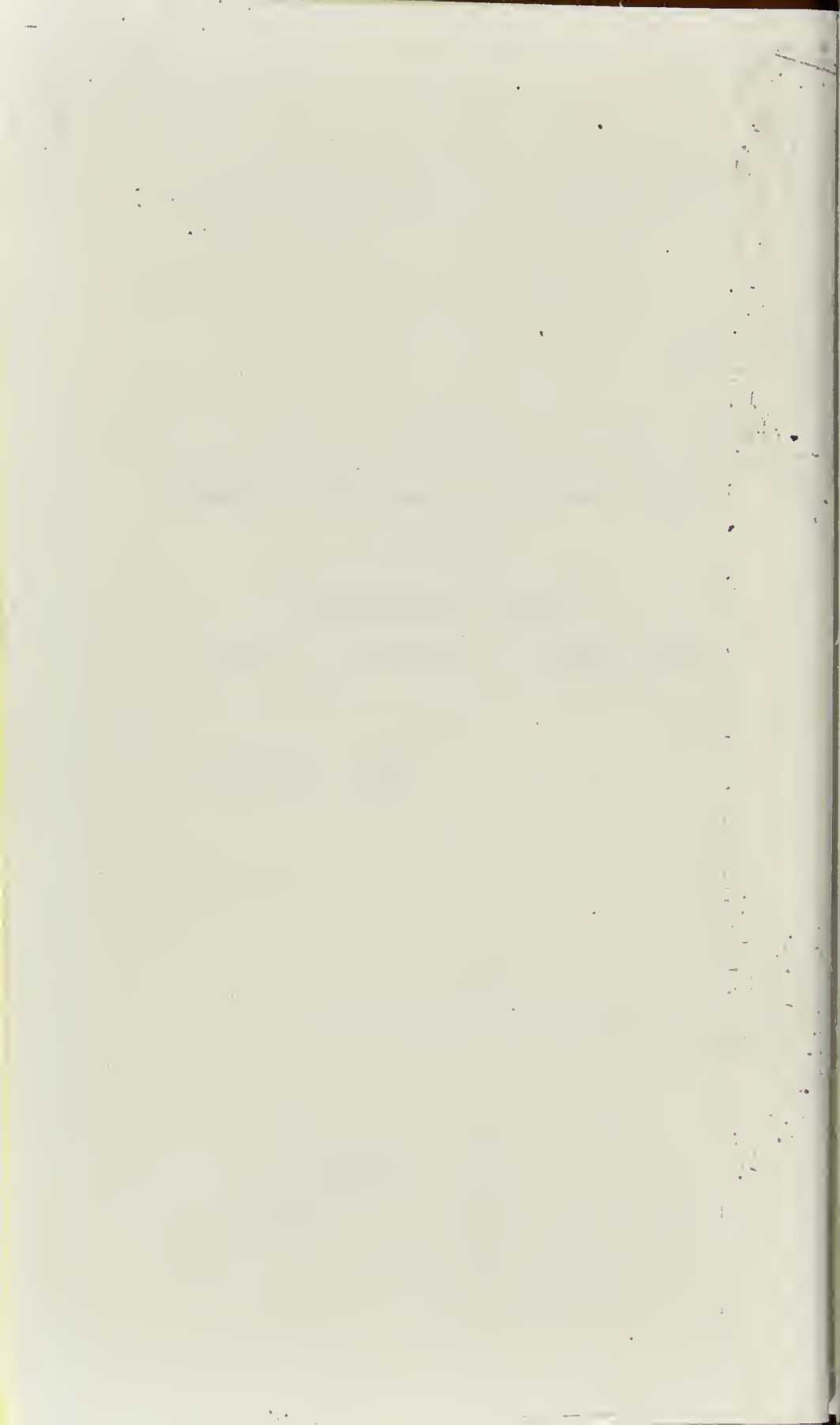
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·TO THE
MEDICAL STUDENTS OF THE UNITED KINGDOM
ARE THESE
“ANATOMICAL EXAMINATIONS”
MOST SINCERELY AND RESPECTFULLY INSCRIBED
BY
THE AUTHOR.



PREFACE.

AMID a multiplicity of toils and responsibilities which invariably accompany the duties demanded of the General Practitioner, the Author, as such, has nevertheless appropriated every available opportunity in preparing and completing a System of HUMAN ANATOMY, comprising in Two Volumes a series of *Ten Thousand Five Hundred Questions and Answers* for the use of those Gentlemen who are, and those who intend hereafter, pursuing their Medical and Surgical Studies in accordance with the Curricula required of them by the various Examining Boards.

In the fulfilment of this task the Author's chief aim has been to avail himself of all aids within his reach, which the importance of the subject so essentially claims.

As Osteology forms the basis of, and the prelude to, the Student's general acquaintance with Anatomy, he is earnestly solicited to embrace this Department of the Science with that unceasing assiduity which is essential to his subsequent labours.

From the Title accorded to these Volumes the Student must not expect to meet with speculative ideas, whereby his mind may be gratified with phenomena in unexplored regions, but will have revealed to him those which Nature presents, as evidenced by that Supreme Being, whose noble work, the creation of man, he must ever regard as an unutterably sublime display of the Great Creator's power.

In conclusion the Author indulges the hope, that as a work of reference, these Volumes may neither prove uninteresting nor uninstrusive to the General Practitioner.

10, STEEP-HILL, LINCOLN,
December 14th, 1858.



QUESTIONS

ON

HUMAN ANATOMY.

SECTION I.—ANATOMY IN GENERAL.

- 1 Define the Science of Anatomy. (*Ana*, through; and *temno*, to cut.)
- 2 Define the Science of Physiology. (*Phusis*, nature; and *logos*, a discourse.)
- 3 What is Pathology? (*Pathos*, disease; and *logos*, a discourse.)
- 4 What is the general division of the component parts of the body?
- 5 Enumerate some of the Solids of the body.
- 6 What are the Bones?
- 7 What is the Chemical Analysis of Bone?
- 8 What are Cartilages?
- 9 What are Fibro-cartilages?
- 10 Are Cartilages vascular?
- 11 What are Ligaments?
- 12 What are Muscles?
- 13 What is Areolar or Cellular-tissue?
- 14 What is the use of Areolar-tissue?
- 15 Is Areolar-tissue vascular?
- 16 What are Vessels?
- 17 What are the Arteries?
- 18 What are the Veins?
- 19 What are the Lymphatics?
- 20 What are the Nerves?
- 21 What is Adipose-tissue?

- 22 What are Glands?
- 23 Enumerate some of the Fluids of the body.
- 24 What is Blood?
- 25 What is Urine?
- 26 What is its Chemical Analysis?
- 27 What is Saliva?
- 28 Enumerate the three pairs of Salivary Glands.
- 29 What are Tears?
- 30 What is Bile?
- 31 What are its chief Constituents?
- 32 What is Gastric-juice?
- 33 What is the Pancreatic-juice?
- 34 What is Milk?
- 35 What is Chyle?
- 36 What is Mucus?
- 37 What is Semen?
- 38 What is Synovia?
- 39 What is the use of Synovia?
- 40 Enumerate the principal divisions into which the Science of Anatomy is usually divided?
- 41 What is Osteology? (Greek, *osteon*, a bone; and *logos*, a discourse.)
- 42 What is Osteogeny? (Greek, *osteon*, a bone; and *genesis*, generation.)
- 43 What is Syndesmology? (Greek, *sundesmos*, a ligament; and *logos*, a description.)
- 44 What is Chondrology? (Greek, *chondros*, a cartilage; and *logos*, a description.)
- 45 What is Myology? (Greek, *muon*, a muscle; and *logos*, a description.)
- 46 What is Adenology? (Greek, *aden*, a gland; and *logos*, a description.)
- 47 What is Splanchnology? (Greek, *splagchna*, viscera; and *logos*, a description.)
- 48 What is Bursalogy? (Greek, *bursa*, a bag; and *logos*, a description.)
- 49 What is Angecology? (Greek, *aggeion*, a vessel; and *logos*, a description.)

What is Neurology? (Greek, *neuron*, a nerve; and *logos*, a description.)

What are Bursæ Mucosæ?

SECTION II.—THE BONES IN GENERAL.

What is the Periosteum?

What is the use of the Periosteum?

Into how many classes are Bones usually divided?

What do you mean by the Diaphysis and Epiphysis of Bone?

What do you mean by the Apophysis of Bone?

Are Bones vascular?

Where do Vessels enter Bones?

How would you demonstrate the Vascularity of Bones?

What is the Medulla of Bones?

Enumerate the names given to different parts of Bones.

What are Foramina?

What are Canals?

What are Sinuses?

What are Notches?

What are Fossæ?

What are Cavities?

What are Heads?

What are Necks?

What are Processes?

What are Spines?

What are Tuberosities?

What are Tubercles?

What are Fissures?

SECTION III.—ARTICULATIONS IN GENERAL.

What do you mean by the Articulation of Bones?

Enumerate the three classes of Articulation.

What is Diarthrosis? (*Dia*, through; and *arthron*, articulation.)

Enumerate the species or subdivisions of Diarthrosis.

What is Enarthrosis? (*En*, in; and *arthron*, articulation.)

- 6 What is Amphiarthrosis? (*Amphi*, both; and *arthrosis*, articulation.)
- 7 What is Arthrodia? (Greek, *arthroo*, to articulate.)
- 8 What is Ginglymus? (Greek, *gigglumos*, a hinge.)
- 9 What is Trochoides? (Greek, *trochos*, a wheel; and *eidos*, likeness.)
- 10 What is Synarthrosis? (Greek, *sun*, together; and *arthroo*, to articulate.)
- 11 Enumerate the species or subdivisions of Synarthrosis.
- 12 What is Sutura?
- 13 What is Harmonia?
- 14 What is Gomphosis?
- 15 What is Symphysis? (Greek, *sun*, together; and *phuo*, to grow.)
- 16 Enumerate the species or subdivisions of Symphysis.
- 17 What is Synchronosis? (Greek, *sun*, together; and *chondros*, cartilage.)
- 18 What is Syssarcosis? (Greek, *sun*, together; and *sarx*, flesh.)
- 19 What is Syneurosis?
- 20 What is Syndesmosis? (Greek, *sundesmos*, a ligament.)

SECTION IV.—OSTEOGENY.

- 1 What is Osteogeny?
- 2 How are Bones formed?
- 3 Name some of the Bones which were never cartilaginous.
- 4 What Bones are Ossified at birth?
- 5 What parts of the Bones are last Ossified?
- 6 When does Ossification in the Epiphyses terminate?
- 7 When are the Epiphyses permanently united to the Diaphyses?

SECTION V.—THE SKULL AND ITS SUTURES.

- 1 How are the Bones of the Skull divided?
- 2 What do you mean by the Diploc of the Skull?
- 3 What do you mean by the two Tables of the Skull-cap?
- 4 How many Bones compose the Cranium?
- 5 Enumerate them.

- 6 How many Bones compose the Skeleton of the Face?
- 7 Enumerate them.
- 8 Enumerate those proper to the Cranium.
- 9 Enumerate those common to the Cranium and Face?

SUTURES OF THE SKULL.

- 10 What do you mean by the Sutures of the Skull?
- 11 Enumerate some of the Sutures of the Skull.
- 12 Describe the Coronal Suture.
- 13 Describe the Sagittal Suture.
- 14 Describe the Frontal Suture.
- 15 Describe the Squamous Suture.
- 16 Describe the Lambdoidal Suture.

SECTION VI.—BONES OF THE SKULL.

OCCIPITAL BONE.

- 1 What is the situation of the Occipital Bone?
- 2 What is the form of the Bone?
- 3 How is the Bone divided?
- 4 What is the form of the external surface?
- 5 What projection do you observe near the middle of this convex surface?
- 6 What do you observe on either side this protuberance?
- 7 What is the extent of this transverse line?
- 8 What is the name of the other transverse line, nearly three-quarters of an inch below the superior curved line?
- 9 What is the name of the vertical ridge which extends from the Occipital protuberance to the Foramen Magnum?
- 10 What is the form of the Foramen Magnum, and what does it transmit?
- 11 What is the name of the oblong articular surface on either side the Foramen Magnum?
- 12 What does each Condyle articulate with?
- 13 What is the name of the Foramen in front of each Condyle?
- 14 What does each transmit?
- 15 What is the name of the Foramen behind each Condyle?

- 16 What does each transmit?
- 17 Name the process which projects, anteriorly to the Foramen Magnum into the base of the Skull?
- 18 What does the small tubercle on its under surface in the middle line give attachment to?
- 19 What does the rough surface on either side this tubercle give attachment to?
- 20 What is the name of the rough projection on either side each Condyle?
- 21 What does the inner rough surface of each Condyle give attachment to?
- 22 What does the excavation formed by the Jugular Eminence contribute with the Petrous Bone to form?
- 23 What is the form of the Cerebral surface?
- 24 What does the groove on the vertical ridge correspond to?
- 25 What does the groove on the transverse ridge correspond to?
- 26 What processes of the Dura Mater does the vertical ridge give attachment to?
- 27 What process of the Dura Mater does the transverse ridge give attachment to?
- 28 What projection do you observe where the ridges cross each other?
- 29 How many Sinuses meet at this point?
- 30 What is the name given to this conflux of the Sinuses?
- 31 Into how many Fossae does the Crucial ridge divide the inner surface?
- 32 What is the appearance of the superior borders?
- 33 What is the appearance of the inferior borders?
- 34 Enumerate the Angles of the Occipital Bone.
- 35 Where is the Superior Angle situated?
- 36 Where is the Inferior Angle situated?
- 37 Where are the Lateral Angles situated?
- 38 With how many Bones does the Occipital Bone articulate?
- 39 With how many Muscles does the Occipital Bone give attachment to?
- 40 From how many parts or centres is this Bone developed?
- 41 What does the superior transverse ridge of the Occipital Bone give attachment to?

- 42 What does the outer part of this same ridge give insertion to?
- 43 What does the surface between the two curved lines give insertion to?
- 44 What does the surface below the inferior curved line give attachment to?

FRONTAL BONE.

- 45 What is the situation of the Frontal Bone?
- 46 How do Anatomists divide this Bone?
- 47 What is the situation of the Frontal portion?
- 48 How is this portion of the Bone divided?
- 49 What is the appearance of the external surface?
- 50 What is the name of the two projections below the Frontal Eminences?
- 51 Are the inner or outer extremities of these ridges the largest?
- 52 What is the name of the two prominent arches below these ridges, and which form the upper margins of the Orbits?
- 53 How do these Supra-orbital ridges terminate externally and internally?
- 54 What is the name given to the Notch at the inner third of the Supra-orbital ridge?
- 55 What does this Notch or Foramen transmit?
- 56 What is the name of the rough projection between the two Superciliary ridges?
- 57 What is the name of the sharp ridge on the posterior part of the external angular process?
- 58 What is the name of the depressed surface of Bone just below this ridge?
- 59 What is the appearance of the internal or cerebral surface?
- 60 What does the groove along the Median line correspond to?
- 61 In tracing this groove downwards you will find its margins approximate; what does it form?
- 62 What do the margins of this groove give attachment to?
- 63 What do the small depressions (which frequently exist) on either side the verticle ridge correspond to?

- 64 What separates the Orbital Plates of the Bone from each other?
- 65 Describe the Orbital Plates.
- 66 How is each Orbital Plate bounded laterally?
- 67 To what Bone is the external Angular process connected?
- 68 To what Bone is the internal Angular process connected?
- 69 What is the appearance of the Superior Border of the Bone?
- 70 What is the appearance of the Inferior Border?
- 71 Which parts of the Frontal Bone are the thinnest, and vice-versa?
- 72 What do you mean by the Frontal Cells or Sinuses?
- 73 What does the shallow depression on each Orbital Plate immediately below the external Angular process lodge?
- 74 What does the small depression immediately below the internal Angular process give attachment to?
- 76 How many openings communicate with the Orbit?
- 76 What does the Optic Foramen transmit?
- 77 What does the Spheno-maxillary Fissure transmit?
- 78 What does the Sphenoidal or Orbital Fissure transmit?
- 79 What does the Supra-orbital Canal transmit?
- 80 What does the Intra-orbital Canal transmit?
- 81 What does the Anterior Ethmoidal Foramen transmit?
- 82 What does the Posterior Ethmoidal Foramen transmit?
- 83 What does the Temporo-malar Foramen transmit?
- 84 How are the Orbits bounded?
- 85 With how many Bones does the Frontal Bone articulate?
- 86 How many Muscles does the Frontal Bone give attachment to?
- 87 What part of the Frontal Bone gives attachment to the Corrugator Supercillii?
- 88 From how many centres is the Frontal Bone developed?

TEMPORAL BONES.

- 89 How many Temporal Bones are there?
- 90 What is the situation of the Temporal Bone?
- 91 How is the Temporal Bone divided?
- 92 What is the situation of the Squamous portion?
- 93 What is the appearance of the external surface?

- 94 What is the name of the arched horizontal and lengthened process at its lower part?
- 95 What does the serrated union of this process with a similar one from the Malar Bone form?
- 96 What is the appearance of the outer surface of the Zygoma?
- 97 What is the appearance of the upper surface of the base of the Zygoma?
- 98 What does the under surface of the base form?
- 99 What does the under surface of the base present?
- 100 What is the space between these two roots?
- 101 Which is the largest of the two roots at the base of the Zygoma?
- 102 What does the posterior root form?
- 103 Where does this root terminate?
- 104 What does this fissure transmit?
- 105 What does the upper margin of the Zygomatic Arch give attachment to?
- 106 What does the lower and anterior two thirds of this Arch give origin to?
- 107 What is the situation of the Mastoid portion?
- 108 What is the name of the large oval opening in front of the Mastoid portion?
- 109 What does the Meatus Externus lead to?
- 110 Which part of this canal is the most contracted?
- 111 What is the appearance of the external surface?
- 112 What is the name of the oblique opening behind the Mastoid process?
- 113 Name the Fossa or groove directly internal to the Mastoid process?
- 114 What is the name of the Groove a little more internal to the Digastric Fossa?
- 115 What is the appearance of the upper and posterior border of the Mastoid portion?
- 116 What does the deep groove on the cerebral aspect of the Mastoid portion lodge?
- 117 What opening terminates in this groove?
- 118 What is the situation of the Petrous portion?

- 119 What is the form of this portion?
- 120 How may the Petrous portion be divided?
- 121 What does the anterior surface form?
- 122 How is the small eminence observed near the middle of this surface caused?
- 123 What is the name of the small furrow or groove situated a little more forward and which transmits the Vidian nerve?
- 124 What does the smaller furrow or groove situated immediately on the outer side of the preceding transmit?
- 125 What name does the Vidian nerve assume in the Hiatus Fallopii?
- 126 What is lodged in the depression on the anterior surface near the apex?
- 127 What does the Canal, situated at the angle where the Squamous and Petrous parts of the bone meet, lodge?
- 128 What tube do you observe below this Canal?
- 129 What separates these two tubes from each other?
- 130 What does the posterior surface form?
- 131 What large aperture do you observe on this surface?
- 132 What does this Canal transmit?
- 133 What do you observe at the bottom of this Canal?
- 134 What does the superior division form?
- 135 What does it transmit?
- 136 You say that the Aqueduct of Fallopius commences at the bottom of the internal Meatus; where does it terminate?
- 137 What do you observe in the inferior division?
- 138 What is the name of the small Canal behind the Meatus which leads to the Vestibule?
- 139 What does this canal transmit?
- 140 What do you observe just below the Meatus?
- 141 What is the aspect of the inferior surface of the Petrous portion?
- 142 What is the name of its long process?
- 143 What is the direction, length and use of this process?
- 144 Enumerate the muscles from above downwards.
- 145 What surrounds the root or base of this process?

- 146 What does this sheath of bone form?
- 147 What Foramen do you observe between the Mastoid and Styloid processes, at the root of the latter?
- 148 What is the name of the Fossa situated on the inner side of the Stylo-mastoid Foramen?
- 149 What foramen does the Jugular Fossa form with a corresponding portion of the occipital bone?
- 150 What is situated in the Jugular Fossa?
- 151 What large circular Canal do you observe anterior to the Jugular Fossa?
- 152 Where does this large Canal terminate?
- 153 What muscles does the rough surface near the apex give attachment to?
- 154 What nerve does the small Foramen between the jugular fossa and carotid canal give entrance to?
- 155 What nerve does the small Foramen on the outer wall of the Jugular Fossa near the base of the Styloid process admit?
- 156 What part of the Petrous Bones assists to form the irregular or ragged hole at the base of the Skull?
- 157 What does the superior border of the Petrous Bone give attachment to?
- 158 What is situated in the groove of this border?
- 159 With how many bones does the Temporal Bone articulate?
- 160 With how many muscles does the Temporal Bone give attachment to?
- 161 From how many parts or centres is the Temporal Bone developed?

PARIETAL BONES.

- 162 How many Parietal bones are there?
- 163 What is the situation of each Parietal bone?
- 164 How is a Parietal bone divided?
- 165 What is the form of the external surface?
- 166 What arched or curved line do you observe below this eminence?
- 167 What shallow surface do you observe below this line?
- 168 What do you observe on the internal or cerebral surface?
- 169 What does the superior border articulate with?

- 170 What does the inferior border articulate with?
 - 171 What does the anterior border articulate with?
 - 172 What does the posterior border articulate with?
 - 173 Name the four angles of the Bone.
 - 174 What Artery runs along the groove on the inner surface of the anterior-inferior Angle?
 - 175 What does the groove formed along the middle line of the skull formed by the union of the two Parietal Bones lodge?
 - 176 Where is the Parietal Foramen situated?
 - 177 What does it transmit?
 - 178 What are the names of the Glands corresponding to the small depressions or pits which exist on the cerebral surface near the middle line?
 - 179 With how many Bones does the Parietal articulate?
 - 180 How many muscles does the Parietal Bone give attachment to?
 - 181 From how many parts or centres is this Bone developed?
- SPHENOID BONE.
- 182 What is the situation of the Sphenoid bone?
 - 183 What are its general divisions?
 - 184 What do you mean by the body?
 - 185 How is the body divided?
 - 186 What deep pit is observed on the superior or cerebral surface?
 - 187 What does it lodge?
 - 188 What do you observe in front of this Fossa?
 - 189 What is the use of this process?
 - 190 What direction do the Optic-foramina take from the olivary process?
 - 191 What do these Foramina transmit?
 - 192 What pointed Tubercles do you observe behind the Optic-foramina?
 - 193 What is the name given to the two Tubercles belonging to the ascending Lamella of Bone which projects over the Pituitary Fossa?
 - 194 What is lodged in a depression or groove on either side the Pituitary Fossa?

- 95 What does the smooth plate of the body anterior to the Sphenoidal fissure assist to form?
- 96 What does the inferior surface present?
- 97 What does each Pterygo-palatine canal transmit?
- 98 What is the name of the two thin plates of bone which project horizontally inwards from the base of the Pterygoid Processes?
- 99 What does the anterior surface in the middle line present?
- 100 With what bones does the Rostrum articulate?
- 101 Where are the Sphenoidal cells or sinuses situated?
- 102 What is the name of the two thin curved Osseous plates which partially close the openings leading into these cells?
- 103 What is the appearance of the posterior surface, and with what Bone does it articulate?
- 104 What are the lesser wings of the Sphenoid Bone?
- 105 What is the appearance and use of their upper surface?
- 106 What is the use of the lower surface?
- 107 What Foramen pierces the base on either side?
- 108 What do the greater wings of the Sphenoid Bone present?
- 109 What does the superior surface form?
- 110 What does the anterior surface form?
- 111 What does the external surface present?
- 112 What does the lower part of this external surface give attachment to?
- 113 What is the name of the sharp process at the posterior angle of the greater wing?
- 114 Between what Bones is this process received?
- 115 What Muscle is attached to this process?
- 116 What separates the greater from the lesser wings?
- 117 What does this fissure transmit?
- 118 Where is the Foramen Rotundum situated, and what does it transmit?
- 119 Where is the Foramen Ovale situated, and what does it transmit?
- 120 Where is the Foramen Spinosum situated, and what does it transmit?

- 221 Where do the Pterygoid processes descend?
 - 222 What do these processes form?
 - 223 How is each process divided?
 - 224 What does the external thin plate give attachment to?
 - 225 How does the internal plate terminate?
 - 226 What is the name of the interval between the two processes?
 - 227 What does this Fossa give attachment to?
 - 228 What is the name of the Fossa just above the Pterygoid Fossa?
 - 229 What does the small Fossa give attachment to?
 - 230 What separates the two plates inferiorly?
 - 231 Why is it called the Palatine Notch?
 - 232 What is the name of the Canal which pierces the base of either Pterygoid process?
 - 233 What does this Canal transmit?
 - 234 With how many Bones does the Sphenoid Bone articulate?
 - 235 With how many Muscles does the Sphenoid Bone give attachment to?
 - 236 From how many parts or centres is this Bone developed?
- ETHMOID BONE.
- 237 What is the situation of the Ethmoid Bone?
 - 238 How is the Bone divided?
 - 239 What does the horizontal or Cribriform plate assist to form?
 - 240 What does this Cribriform or perforated Lamella give passage to?
 - 241 What does the perpendicular plate assist to form?
 - 242 What is the name of the thick process of Bone which projects from this plate into the Cranial Cavity?
 - 243 What Bones are connected with this plate posteriorly?
 - 244 What Bones are connected with this plate anteriorly?
 - 245 What are the Lateral Masses composed of?
 - 246 How are the Cells closed in laterally?
 - 247 Where do the anterior Ethmoidal Cells open?
 - 248 Where do the posterior Ethmoidal Cells open?
 - 249 What does the inner surface of each Lateral Mass form?

- 250 With how many Bones does the Ethmoid articulate?
- 251 What Muscles are attached to this bone?
- 252 From how many parts or centres is this Bone developed?

BONES OF THE FACE.

Superior Maxillary Bones.

- 1 How many Superior Maxillary Bones are there?
- 2 What is the situation of a Superior Maxillary Bone?
- 3 What does it form with its fellow of the opposite side?
- 4 How is the Bone divided?
- 5 How many surfaces does the body present?
- 6 What does the external surface form?
- 7 What depression do you observe near its centre?
- 8 What Muscles does this Fossa give attachment to?
- 9 What Foramen do you observe above this Fossa?
- 10 What Muscle arises just above this Foramen?
- 11 What does this Canal transmit?
- 12 What do you observe on the internal or Nasal surface?
- 13 What part of the surface is the Orifice?
- 14 What is the form of the Cavity of the Antrum?
- 15 What does the Superior Surface or Roof of the Antrum Form?
- 16 What is this Surface marked by?
- 17 Where does this Canal terminate?
- 18 What does the Posterior Surface form?
- 19 Where do the several Apertures on this Surface lead to?
- 20 Which is the thickest and strongest process?
- 21 Enumerate the different Teeth which the Sockets receive.
- 22 Which Socket is the deepest?
- 23 What is the direction of the Palate process.
- 24 What does this process assist to form?
- 25 What does the ridge on the inner side, when united with its fellow of the opposite side, form?
- 26 What Foramen does the union of two Bones anteriorly form on the Inferior Surface of the Palatine process?
- 27 What does this Foramen form internally?
- 28 What is the situation of this Canal?
- 29 What does the Nasal process form?
- 30 With what Bones does this process articulate?

- 31 What deep Groove runs almost vertically in its posterior or orbital border?
- 32 How is this Groove converted into a Canal?
- 33 What is the use of this Canal?
- 34 What is the size and direction of this Canal?
- 35 What Muscles are attached to the external surface of this process?
- 36 What do the the two ridges on the inner surface of this process give attachment to?
- 37 What do the smooth surfaces between these ridges form?
- 38 How is the anterior opening of the Nose bounded?
- 39 Where is the Malar process situated?
- 40 What does the triangular rough surface of this process articulate with?
- 41 With how many Bones does the Superior Maxillary Bone articulate?
- 42 What Muscles are attached to this Bone?
- 43 From how many parts or centres is this Bone developed?

MALAR BONES.

- 44 How many Malar Bones are there?
- 45 How is a Malar Bone divided?
- 46 What is the form of anterior or Facial surface?
- 47 What is this surface pierced by?
- 48 What is the form of the posterior surface?
- 49 What does the superior surface form?
- 50 How many borders does the Malar Bone present?
- 51 What Muscle does the lower border give attachment to?
- 52 With how many Bones does this Bone articulate?
- 53 What Muscles are attached to this Bone?
- 54 From how many parts or centres is this Bone developed?

LACHRYMAL BONES.

- 55 How many Lachrymal Bones are there?
- 56 What is the situation of a Lachrymal Bone?
- 57 How is the Bone divided?
- 58 What do you observe on the external or Orbital surface?
- 59 What muscle does the vertical ridge on the Os Unguis give attachment to?
- 60 What does the internal or Nasal surface assist to form?

- 61 What do the four borders form?
- 62 Name the four Articulations?
- 63 What Muscles are attached to this Bone?
- 64 From how many parts or centres is this Bone developed?

NASAL BONES.

- 65 How many Nasal Bones are there?
- 66 What is the situation of the Nasal Bones?
- 67 How is a Nasal Bone divided?
- 68 What is the form of the anterior surface?
- 69 What is the form of the posterior surface?
- 70 What do the four borders form?
- 71 Name the four Articulations?
- 72 How are Nasal Fossæ divided?
- 73 What Bones divide the Nasal Fossæ into two Cavities?
- 74 What Muscles are attached to the Nasal Bone?
- 75 From how many parts or centres is this Bone developed?

PALATE BONES.

- 76 How many Palate Bones are there?
- 77 What is the situation of the Palate Bones?
- 78 What is the general form of this Bone and its divisions?
- 79 Which Plate completes the Hard-palate?
- 80 What does this inferior surface present?
- 81 What Canal do you observe near to the outer end of this ridge?
- 82 What does the anterior edge of this Plate articulate with?
- 83 What does the posterior edge give attachment to?
- 84 How does this Plate terminate posteriorly?
- 85 What Muscle does this posterior Palatal Spine give attachment to?
- 86 What does the superior surface of this plate form?
- 87 What does the Perpendicular Plate assist to form?
- 88 Near the centre of its inner surface is a ridge; what does this unite with?
- 89 What do the concave surfaces above and below this ridge assist to form?
- 90 What does the external surface contribute to form?
- 91 What does the Groove or depression on this surface contribute to form?

- 92 How is this Groove completed into a Canal?
- 93 What is the name of the two processes situated near the upper part of the Vertical Plate?
- 94 What deep Notch or Foramen separates these two processes?
- 95 What does this Foramen transmit?
- 96 What does the Orbital process contain?
- 97 How many surfaces does this process present?
- 98 Name the three Articular surfaces and their connections.
- 99 What do the two free surfaces form?
- 100 What does the posterior or Sphenoid process form?
- 101 How many surfaces does this process present?
- 102 What does the superior surface unite with?
- 103 What does the outer lateral surface assist to form?
- 104 What does the concave or internal lateral surface assist to form?
- 105 Where is the Tuberosity or Pterygoid process of the Palate Bone situated?
- 106 How many surfaces does this process present?
- 107 What does the posterior surface present?
- 108 What does the anterior surface present?
- 109 What does the inferior surface present?
- 110 With how many Bones does the Palate Bone articulate?
- 111 What Muscles are attached to this Bone?
- 112 From how many parts or centres is this Bone developed?

INFERIOR SPONGY BONES.

- 113 What is the situation of an inferior Turbinate Bone?
- 114 How is the Bone divided?
- 115 Describe the internal surface.
- 116 Describe the external surface.
- 117 What do the two borders form?
- 118 What Muscles are attached to this bone?
- 119 From how many parts or centres is this Bone developed?

VOMER.

- 120 What is the situation of the Vomer?
- 121 What Bone, united with the Vomer, completes the Septum?
- 122 How is the Bone divided?

- 123 What do the lateral surfaces form?
- 124 What does the superior grooved border receive?
- 125 What becomes of the inferior border?
- 126 What becomes of the posterior border?
- 127 What becomes of the anterior border?
- 128 What do you observe on the two surfaces of the Bone?
- 129 What Muscles are attached to this Bone?
- 130 With how many Bones does the Vomer articulate?
- 131 From how many parts or centres is this developed?

INFERIOR MAXILLARY BONE.

- 132 What does the Inferior Maxillary Bone form?
- 133 How is the Bone divided?
- 134 Name the ridge at the middle line on the external surface of the body?
- 135 What is its direction?
- 136 How does the Symphysis terminate?
- 137 What is the name of the superficial depression on each side the Symphysis?
- 138 What does this Fossa give attachment to?
- 139 What does the oblique Foramen external to the Mental Fossa give exit to?
- 140 What does the external oblique ridge just below the Mental Foramen give attachment to?
- 141 What Muscle is attached by one of its origins to the outer surface of the Alveolar border of this Bone as far as the first Molar Tooth?
- 142 What is the form of the internal surface of the Body?
- 143 What do you observe on this surface at the Symphysis?
- 144 What Muscle does the upper Tubercle on either side give attachment to?
- 145 What Muscle does the lower Tubercle on either side give attachment to?
- 146 What does the depression and just below these Tubercles on either side give origin to?
- 147 What does the oblique line or ridge on this inner surface, running upwards and outwards to the Ramus give attachment to? (the Mylo-hyoidean ridge.)
- 148 Name the Gland situated above this oblique ridge?

- 149 Name the Gland situated below this oblique ridge?
- 150 How many Teeth are there in the adult inferior Maxillary Bone?
- 151 How many fangs have each of the Molar Teeth in this Bone?
- 152 Where is the Angle of the Bone situated?
- 153 Name the two processes at the upper extremity of the Ramus?
- 154 Which is the most anterior?
- 155 Name the Muscle inserted into the inner and under surface of the Coronoid process?
- 156 Name the Notch which separates these two processes?
- 157 What Nerve and Artery cross the Sigmoid Notch?
- 158 Name the Muscle inserted into the Angle, the lower half of the outer surface of the Ramus, and outer surface of the Coronoid process?
- 159 Name the Orifice of the Canal near the centre, on the inner surface of the Ramus?
- 160 What does it transmit?
- 161 Name the Nerve which passes in a Groove on the outer surface of this Canal?
- 162 Name the Muscle inserted into the Angle and inner rough surface, just below this Canal?
- 163 What is the form of the Condyle of this Bone?
- 164 Name the Cavity into which this Condyle is received?
- 165 What Muscle is inserted into the hollow in front of the neck of the Condyle?
- 166 With how many Bones does this Bone articulate?
- 167 What Muscles are attached to this Bone?
- 168 From how many parts or centres is the Bone developed?

THE TEETH.

- 169 How are the Teeth divided?
- 170 How many Temporary Teeth are there?
- 171 How many Permanent Teeth are there?
- 172 How is a Tooth divided?
- 173 Which part constitutes the Crown?
- 174 Which part constitutes the Neck?
- 175 Which part constitutes the Root or Fang?

- 176 What parts are invested by the Periosteum?
- 177 Describe an Incisor Tooth.
- 178 What does the Apex present?
- 179 Describe a Canine Tooth.
- 180 Describe a Bicuspid Tooth.
- 181 Describe a Molar Tooth.
- 182 What name is given to the last Molares in both Jaws?
- 183 In what do these Teeth differ from the other Molares?
- 184 Where does the Canal which commences by a small
Orifice at the Apex of a Tooth lead to?
- 185 What does this Cavity contain?
- 186 What is a Tooth composed of?
- 187 Which is the Ivory portion of the Tooth?
- 188 What is it composed of?
- 189 What is the Enamel composed of?
- 190 What is the Cortical substance composed of?
- 191 Where is the Cortical part situated?
- 192 What quantity of Animal Matter exists in the Ivory
part?
- 193 What quantity of Animal Matter exists in the Enamel?
- 194 What quantity of Animal Matter exists in the Cortical
substance?
- 195 What is the Mineral or Earthy Matter composed of?

OS HYOIDES.

- 196 What is the situation of the Os Hyoides?
- 197 How is the Bone divided?
- 198 What is the form of the body?
- 199 What is the form of its anterior and posterior surfaces?
- 200 What does the anterior surface give attachment to?
- 201 What is the situation of the Greater Cornua?
- 202 How does each terminate posteriorly?
- 203 What is the situation of the Lesser Cornua?
- 204 What is the size of the Lesser Cornua?
- 205 What is attached to the extremity of the Lesser Cornu?
- 206 How many Museles are attached to this Bone?
- 207 Enumerate the Ligaments which connect the Os Hyoides
to the Thyroid Cartilage?
- 208 From how many centres is this Bone developed?

SECTION VII.—BONES OF THE TRUNK.

- 1 What parts compose the Trunk of the Skeleton?

VERTEBRAL COLUMN.

- 2 What is the situation of the Vertebral Column?
- 3 How are the Vertebrae divided?
- 4 How many true Vertebrae are there?
- 5 Into how many Regions are they divided?
- 6 How many Vertebrae compose the Cervical Region?
- 7 How many Vertebrae compose the Dorsal Region?
- 8 How many Vertebrae compose the Lumbar Region?
- 9 How is a true Vertebra generally divided?
- 10 What is the situation and form of the body of a true Vertebra?
- 11 What do you observe behind the body, and what does it assist to form?
- 12 What does the Vertebral Foramen transmit?
- 13 What is the use of the small Foramina on its anterior surface?
- 14 Where are the Transverse processes situated?
- 15 Where is the Spinous process situated?
- 16 What do you mean by the Laminæ?
- 17 What is the use of the Transverse and Spinous processes?
- 18 Where are the four Articular Processes situated?
- 19 Where are the Intervertebral Notches situated?
- 20 How are the Vertebrae connected to each other?
- 21 How many false Vertebrae are there?
- 22 How many false Vertebrae compose the Sacrum?
- 23 How many false Vertebrae compose the Coccyx?

CERVICAL VERTEBRÆ.

- 24 Describe the Body of a Cervical Vertebra.
- 25 Describe the Transverse processes.
- 26 Describe the Spinous processes.
- 27 Describe the Articular processes.

ATLAS.

- 28 What is the name of the first Vertebra?
- 29 What parts common to the other Vertebrae are wanting in the Atlas?
- 30 In what does this Ring or Vertebral Foramen differ from the others?

- 31 What is the use of the small Articular surface on the anterior part of the Ring of the Atlas?
- 32 What Muscle is attached to the Tubercle on the anterior surface of the Atlas?
- 33 What is the situation of the Intervertebral Notches?
- 34 What is the form of the Superior Articular Surfaces?
- 35 What is the form of the Inferior Articular Surfaces?
- 36 What do the two Tubercles within the Articular processes give attachment to?
- 37 How many Muscles are attached to this Bone?

AXIS.

- 38 What is the name of the second Cervical Vertebra?
- 39 Name the process or Pivot which ascends vertically from the body of the Axis.
- 40 How many Articulating surfaces does the Odontoid process present?
- 41 What is the form of the superior Articular processes?
- 42 What is the form of the inferior Articular processes?
- 43 In what do the Transverse processes differ from the rest?
- 44 In what does the Spinous process differ from the rest?
- 45 What is the form of the lower surface of the body of the Axis?
- 46 How many Muscles are attached to this bone?
- 47 What name is given to the seventh Cervical Vertebra?
- 48 What is the character of this Bone?
- 49 What is attached to the extremity of this process?
- 50 In what do the Transverse processes of this Bone differ from the others?

DORSAL VERTEBRÆ.

- 51 Describe the Body of a Dorsal Vertebra.
- 52 Describe the Transverse processes.
- 53 Describe the Spinous process.
- 54 Describe the Articular processes.
- 55 What is the form of the Vertebral Foramen?
- 56 Is there anything peculiar in the first Dorsal Vertebra?
- 57 What is there peculiar to the eleventh and twelfth Dorsal Vertebrae?
- 58 How would you distinguish the last Dorsal Vertebra from the eleventh?

LUMBAR VERTEBRÆ.

- 59 Describe the Body of a Lumbar Vertebra.
- 60 Describe the Transverse processes.
- 61 Describe the Spinous process.
- 62 Describe the Articular processes.
- 63 What is the form of the Vertebral Foramen?
- 64 How many muscles are attached to the Vertebrae?

BONES OF THE THORAX.

- 65 How is the Thorax formed?
- 66 What is the situation of the Ribs?
- 67 How many Ribs are there?
- 68 How are they divided?
- 69 Which are the true Ribs?
- 70 Why are they called the true Ribs?
- 71 How is a Rib divided?
- 72 What is the form of the external surface?
- 73 What is the form of the internal surface?
- 74 What is the form of the superior border?
- 75 What is the appearance of the inferior border?
- 76 What does the Head or posterior extremity present?
- 77 What is the rounded constricted part below the Head called, and how is it terminated?
- 78 What does the Articular surface of this Tubercle articulate with?
- 79 What is the form of the anterior or Sternal Extremity?
- 80 Which part of the Rib is the strongest?
- 81 Where is the Angle of the Rib situated?
- 82 Name the most vascular Bones in the Body.
- 83 Which is the strongest Rib?
- 84 In what does the first Rib differ from the rest?
- 85 What do you observe on its upper surface?
- 86 What does the small projection or Tubercle between these two depressions on the inner border give origin to?
- 87 What do you observe on the Head or Posterior Extremity of this Bone, and what does it correspond to?
- 88 In what do the eleventh and twelfth Ribs differ from the rest?

- 89 In what does the eleventh differ from the twelfth?
- 90 Which part of a true Rib is the most crooked?
- 91 How many false Ribs are there?
- 92 Which of these Ribs are the shortest?
- 93 Which of the false Ribs are connected by their Cartilages to that of the seventh Rib?
- 94 In what do the anterior extremities of the false Ribs differ from those of the true?
- 95 Do instances occur of the Human Skeleton having more than twelve Ribs on either side?

COSTAL CARTILAGES.

- 96 How many Costal Cartilages are there?
- 97 How many articulate with the Sternum?
- 98 How many Cartilages of the false Ribs unite with the lower border of the Cartilage of the seventh Rib?
- 99 Which Ribs have the shortest Cartilages?
- 100 Which of the Ribs have the longest Cartilages?
- 101 What is the direction of the Costal Cartilages?
- 102 How many are free or unattached?
- 103 With how many Vertebrae does each Rib articulate?
- 104 Enumerate the Muscles attached to the Ribs
- 105 Enumerate the Muscles attached to the Cartilages
- 106 From how many parts or centres are the Ribs developed?

STERNUM.

- 107 What is the situation and length of the Sternum?
- 108 What is the form of the Sternum?
- 109 How is the Bone divided?
- 110 Describe the Superior portion.
- 111 What is situated at each Superior Angle?
- 112 What do you observe on either side of it?
- 113 Describe the Middle portion.
- 114 Describe the Inferior portion.
- 115 What does this portion give attachment to?
- 116 What does this Cartilage give attachment to?
- 117 With how many Bones does the Sternum articulate?
- 118 What Muscles are attached to this Bone?
- 119 From how many parts or centres is this Bone developed?

BONES OF THE PELVIS.

120 Name the Bones of the Pelvis.

OS SACRUM.

- 121 What is the form and situation of the Os Sacrum?
122 How is the Bone divided?
123 What is the form of the anterior surface?
124 How many transverse lines or ridges do you observe on this surface?
125 What Foramina do you observe at the termination of of these ridges on either side?
126 What do these Foramina give egress to?
127 What is the form of the Posterior surface?
128 What does this surface present along the middle line from above downwards?
129 What Foramina do you observe on either side the middle line on this surface?
130 What do these Foramina give egress to?
131 What is the name of the projection immediately external to each of the posterior Sacral Foramina?
132 What Muscle is attached to these Tubercles and Crest?
133 What does the lateral border superiorly articulate with?
134 What does the sharp edge inferiorly give attachment to?
135 What does the oval Articular surface on the base or superior border correspond to?
136 What do you mean by the Promontory of the Sacrum?
137 What is the general form of the Sacral Canal?
138 What does the Articular surface on either side the entrance of this Canal correspond to?
139 What do you observe in the front of each of these Articular surfaces?
140 What does the oval Articular Surface at the Apex correspond to?
141 How is the Notch converted into a Foramen, for the transmission of the fifth Sacral Nerve, formed?
142 How many Sacral Vertebrae concur to form the Sacro-iliac Symphysis?
143 With how many Bones does the Sacrum articulate?
144 What Muscles are attached to this Bone?

145 From how many parts or centres is this Bone developed ?

OS COCCYGIS.

146 What is the situation of the Os Coccygis ?

147 Why called Coccyx ?

148 Of how many portions does the Bone consist ?

149 What is the form of its anterior surface ?

150 What is the form of its posterior surface ?

151 What does the upper surface present ?

152 What do the two Cornua articulate with ?

153 With how many Bones does the Coccyx articulate ?

154 What Muscles are attached to this Bone ?

155 From how many parts or centres is this Bone developed ?

OSSA INNOMINATA.

156 How many Ossa Innominata are there ?

157 How is the Os Innominatum divided ?

ILIUM.

158 What is the situation of the Ilium ?

159 How is the Ilium divided ?

160 How is the internal surface bounded ?

161 What is the appearance of this surface ?

162 What Muscle is attached to this Fossa ?

163 What part of the Ilium is the thinnest ?

164 What part of the Ilium is the thickest and strongest ?

165 Which part of the Ilium is rough ?

166 What do you observe on this rough surface ?

167 Does a large Foramen exist on the internal surface ?

168 What is the form of the external surface ?

169 How is this surface bounded ?

170 Name the lines which run from before backwards on the external surface.

171 What is the extent of the superior curved line ?

172 What is the extent of the inferior curved line ?

173 What Muscle arises from that portion of the external surface which is placed between the Crest and the superior curved line ?

174 What Muscle arises from that portion of the Dorsum or external surface which is placed between the superior and inferior curved lines ?

- 175 What are the names of the two projections at the posterior part of the external surface?
- 176 What Muscle is attached to the rough surface near the posterior superior Spine?
- 177 What Muscle is attached to the rough surface between the inferior curved line and upper segment of the Acetabulum?
- 178 What Muscle is attached to the anterior inferior Spine of the Ilium?
- 179 What Muscle is attached to the Notch between the anterior superior and anterior inferior Spines or Spinous processes?
- 180 What is the name of the broad and arched Notch between the posterior inferior Spine and the Spine of the Ischium?
- 181 What do you observe on the anterior border of the Ilium?
- 182 What separates these two processes?
- 183 What does the anterior superior Spinous process communicate with?
- 184 How does the anterior inferior Spinous process terminate?
- 185 What do you observe on the posterior border of the Ilium?
- 186 What do these processes give attachment to?
- 187 What does the posterior inferior Spine form?
- 188 What is the situation of the Crista Ilii?
- 189 How many edges or lips may this border be divided into?
- 190 What Muscles are attached to the external lip?
- 191 What Muscle is attached to the middle lip?
- 192 What Muscles are attached to the internal lip?
- 193 What part of the Ilium is the thickest?
- 194 What Bone, with the Ilium, contributes to form the greater Sacro-ischiatic Notch?
- 195 What does the base assist to form?

ISCHIUM.

- 196 What is the situation of the Ischium?

- 197 How is the Bone divided ?
- 198 What does the Body assist to form ?
- 199 Where is the Tuberosity situated ?
- 200 What is the Ramus ?
- 201 What Bones complete the Foramen Ovale ?
- 202 What closes this Obturator Foramen in the recent state ?
- 203 What is the name of the Projection which divides the
greater from the lesser Isehiatic Notch ?
- 204 What Muscle is attached to this Spine ?
- 205 What Muscles are attached to the inner side of this
Spine ?
- 206 What Ligament forms, with the greater Isehiatic Notch,
a Foramen ?
- 207 What does this Notch transmit ?
- 208 What completes the lesser Notch, and what does it
transmit ?
- 209 What do the three borders of the Isehium form ?
- 210 What does the external rough surface of the Ischium
give attachment to ?
- 211 What is the appearanee of the internal surface ?
- 212 What Musele is attached to the upper and posterior
part of the Tuberosity ?
- 213 What Muscles are attaeched below the Gemellus inferior
at the outer and baek part of the Ischial Tuberosity ?
- 214 What does the rough ridge on the inner side of the
Tuberosity give attachment to ?
- 215 What Muscle arises from this inner surface anterior to
the rough ridge ?
- 216 What Muscle arises from this inner surface near to the
Pubic Arch ?

ACETABULUM.

- 217 How is the Acetabulum formed ?
- 218 What do you observe in its margin or brim ?
- 219 Where is the upper and smaller Notch situated ?
- 220 Where is the larger Notch situated ?
- 221 What Ligaments are attached to the borders of this
Notch ?
- 222 What part of the Acetabulum is free from Cartilage ?

223 What is the Cotyloid Ligament?

224 What do you observe at the bottom of the Socket?

PUBIS.

225 What is the situation of the Pubis?

226 How is the Pubis divided?

227 What does the inner rough surface of the body of the Pubis articulate with?

228 What Muscle is attached to the upper surface of the horizontal Ramus?

229 What rough ridge do you observe leading horizontally outwards from the upper part of the Symphysis?

230 What forms the Angle of the Os Pubis?

231 What forms the Spine or Tuberosity of the Os Pubis?

232 What marks the margin of the true Pelvis?

233 What Muscles are attached to the Crest of the Pubis?

234 What is the direction of the descending Ramus of the Pubis?

235 With what Bone does the descending Ramus unite?

236 What does the descending Ramus present?

237 What is the appearance of the external or anterior surface of the Bone?

238 What Muscles are attached to the external or anterior surface of the Bone?

239 What is the appearance of the internal or posterior surface of the Bone?

240 What do the two Borders form?

241 What is the use of the Groove on the margin of the Arch of the Pubis?

242 What Muscle is situated behind the Groove?

243 With how many Bones does the Os Innominatum articulate?

244 From how many parts or centres is this Bone developed?

SECTION VIII.—BONES OF THE UPPER
EXTREMITY.

1 How are the Bones of the upper extremity divided?

BONES OF THE SHOULDER.

2 How is the Shoulder divided?

SCAPULA.

- 3 What is the form and situation of the Scapula?
- 4 How is the Bone divided?
- 5 What is the name given to the anterior or inner surface of the Scapula?
- 6 What is the form of this surface?
- 7 What Muscle is attached to this surface?
- 8 What other Muscle do you observe on this surface, chiefly its posterior border?
- 9 What is the form of the posterior surface sometimes called Dorsum Scapulæ?
- 10 What divides this surface into two portions?
- 11 What is the name given to that portion above the Spine?
- 12 What Muscle is attached to this upper portion?
- 13 What is the name given to that portion below the Spine?
- 14 What Muscle is attached to this lower portion?
- 15 What other Muscles are attached to this lower portion near its Axillary border?
- 16 Which is the largest Fossa on the Dorsal Surface?
- 17 Which of the three borders of the Scapula is the shortest?
- 18 What is the extent of the superior border?
- 19 What do you observe on this border near to the Coracoid process?
- 20 What does this Notch transmit?
- 21 Which of the three borders of the Scapula is the longest?
- 22 What is the extent of the posterior border?
- 23 What Muscles are attached to this border?
- 24 What is the extent of the inferior, anterior, or axillary border?
- 25 Which border of the Scapula is the strongest?
- 26 What do you observe on this border?
- 27 Where does the Spine of the Scapula commence and terminate?
- 28 What Muscles are attached to the superior rough border of the Spine?
- 29 What is the Acromion?
- 30 What part of the Acromion gives origin to the Deltoid?
- 31 Name the Angles of the Scapula?

- 32 What does the anterior Angle form?
- 33 What does the Head present?
- 34 How is this Cavity deepened?
- 35 How is the superior Angle formed?
- 36 How is the inferior Angle formed?
- 37 What Muscle passes over the inferior Angle?
- 38 What is the Neck of the Scapula?
- 39 What is the Coracoid process?
- 40 What Muscles are attached to the Apex or extremity of this process?
- 41 What Muscle is attached to the anterior half of the upper surface of this process?
- 42 With how many Bones does the Scapula articulate?
- 43 From what part of the Scapula does the Omo-hyoideus arise?
- 44 From how many parts or centres is this bone developed?

CLAVICLE.

- 45 What is the situation of the Clavicle?
- 46 What is the form of the Clavicle, and how is it divided?
- 47 As this Bone presents two alternate curves, what is their form when viewed anteriorly?
- 48 Which is the largest of these two curves?
- 49 What Muscle arises from the upper surface of the shaft on its anterior Sternal curve?
- 50 What Muscle arises from the upper surface of the shaft on its posterior Sternal curve?
- 51 What Muscle arises from the upper surface of the shaft on its anterior Acromial curve?
- 52 What Muscle is inserted into the upper surface of the shaft on its posterior Acromial curve?
- 53 What does the longitudinal Groove on the under surface give attachment to?
- 54 What Ligament is attached to the Tubercle on this surface near the Acromial extremity?
- 55 What Ligament is attached to the ridge on this surface, which extends outwards from the Tubercle just named?
- 56 What Ligament is attached to the rough prominence on the under surface near to its Sternal extremity?

- 57 What does the Foramen on the under surface of the Bone, near to its middle transmit?
- 58 How does the inner or Sternal extremity terminate?
- 59 How does the inner extremity unite with the Sternum?
- 60 How does the external or Acromial extremity terminate?
- 61 Which Bone ossifies sooner than any other Bone in the Body?
- 62 With how many Bones does the Clavicle articulate?
- 63 How many Muscles are attached to this Bone?
- 64 From how many parts or centres is this Bone developed?

HUMERUS.

- 65 What is the form and situation of the Humerus?
- 66 How is the Bone divided?
- 67 What do you observe about the middle of the shaft on the outer surface?
- 68 What Muscle is inserted into the rough triangular impression, a little above the middle of this outer surface?
- 69 What Muscle is inserted into the ridge near the Deltoid, but on the inner aspect of the Bone?
- 70 What Muscle arises from all the anterior surface of the Humerus, below the insertion of the Deltoid?
- 71 Where is the Nutrient Foramen for the Medullary Vessels situated?
- 72 What Nerve and Artery pass in the oblique Groove on the back part of the Humerus?
- 73 What Muscles are attached to the shaft on its posterior aspect?
- 74 What do you observe on the upper extremity of the Humerus?
- 75 Into what Cavity is the Head of the Humerus received?
- 76 What separates the greater from the lesser Tuberosity?
- 77 Which Tuberosity is the most external?
- 78 What is lodged in the Bicipital Groove?
- 79 What are the names of the rough edges of this Groove?
- 80 What is attached to the anterior or outer Bicipital ridge?
- 81 What is attached to the posterior or inner Bicipital ridge?

- 82 What is attached to the bottom of the Bicipital Groove?
- 83 Enumerate from above downwards the external Rotator Muscles which are attached by their insertions to the greater Tuberosity?
- 84 Name the Muscle attached to the lesser Tuberosity?
- 85 What is the form of the lower extremity of the Humerus?
- 86 How does this extremity terminate?
- 87 What does the external surface correspond with?
- 88 What does the inner surface correspond with?
- 89 What is the name of the two projections, one on either side this Articular surface?
- 90 Which Condyle is the largest?
- 91 Name the four Flexors and one Pronator which the internal Condyle and its ridge give attachment to.
- 92 Name the Extensors and Supinator which the external Condyle and its ridge give attachment to?
- 93 What ridges do you observe passing upwards from the Condyles, one on either side?
- 94 What Cavity do you observe immediately above the Trochlea to its inner side?
- 95 What deep Cavity do you observe immediately posterior to the Trochlea?
- 96 Describe the natural situation of the Humerus?
- 97 With how many Bones does the Humerus articulate?
- 98 From how many parts or centres is this Bone developed?

BONES OF THE FOREARM.

- 99 How many Bones compose the Forearm?

ULNA.

- 100 What is the form and situation of the Ulna?
- 101 How is this Bone divided?
- 102 What does the Body present?
- 103 What Muscle is attached to the greater part of the anterior and inner surfaces of this Bone?
- 104 What Muscle is attached to the lower part of the anterior and inner surfaces of this Bone?
- 105 What does the Foramen a little above its middle transmit?

- 106 What do you observe on the posterior aspect of the shaft?
- 107 What Muscle is attached to the triangular surface on the upper third on this aspect?
- 108 What Muscle is attached to the slight ridge near to the Anconeus and just below the lesser Sigmoid Cavity?
- 109 Name the Muscles on this surface which arise in succession below the Supinator Radii Brevis.
- 110 What does the posterior border give attachment to?
- 111 What does the Radial or external border give attachment to?
- 112 What is the name of the semi-circular or semi-lunar Cavity on the upper extremity of the Bone?
- 113 What is the name of the smaller one to its outer side?
- 114 What is the name of the large projection behind the greater Sigmoid Notch?
- 115 What Muscles are attached to the Olecranon process?
- 116 What is the name of the smaller projection in front of the greater Sigmoid Notch?
- 117 What Muscles are attached to the Coronoid process?
- 118 What is the name given to the lower extremity of the Bone?
- 119 What is the name of the process which projects from the back part of this extremity?
- 120 What do you observe on the posterior aspect between this process and the Head?
- 121 What does the small articular surface at the base of the Styloid process correspond to?
- 122 With how many bones does the Ulna articulate?
- 123 From how many parts or centres is this bone developed?

RADIUS.

- 124 What is the form and situation of the Radius?
- 125 How is the Bone divided?
- 126 Which is the longest Bone of the Forearm?
- 127 What does the body of the Radius present?
- 128 What is the appearance of the anterior surface?
- 129 What does the upper two-thirds of this surface give attachment to?

- 130 What does the lower third of this surface give attachment to?
- 131 What is the situation and direction of its Medullary Foramen?
- 132 What is the form of the posterior surface?
- 133 What Muscles are attached to this surface?
- 134 What is the form of the external surface?
- 135 What Muscle is attached to the middle of this surface?
- 136 What Muscle is attached to the upper third of this surface?
- 137 What is the extent of the rough oblique ridge on this surface?
- 138 What is attached to the sharp margin on the inner side of the Radius?
- 139 What does the superior extremity of this Bone present?
- 140 What does the smooth Articular surface around the margin of the Head of the Radius correspond to?
- 141 What constricted part do you observe below the Head?
- 142 What Tubercle or process is situated below the Neck on its inner aspect?
- 143 What is attached to this process?
- 144 What is situated between this Tendon and the Bone?
- 145 Which extremity of the Radius is the largest?
- 146 What do you observe on the inferior extremity?
- 147 What is the form of the Articular surface on its inner side?
- 148 What does the other Articular surface correspond with?
- 149 What is the name of the conical projection on the outer side this extremity?
- 150 What Tendon is inserted into the base of this process?
- 151 What Ligament is attached to the Apex of this process?
- 152 What tendons are lodged in the Groove in front of the Styloid process?
- 153 What Tendons are lodged in a broader Groove behind this process?
- 154 How are these Grooves formed into Canals in the recent state?
- 155 With how many Bones does the Radius articulate?

156 From how many parts or centres is this Bone developed?

BONES OF THE HAND.

157 How many Bones compose the Hand?

158 How are the Bones of the Hand divided?

CARPUS.

159 What is the form and situation of the Carpus or Wrist?

160 How many Bones compose the Carpus?

161 Enumerate the first row, commencing on the Radial side.

162 Enumerate the second row, commencing on the Radial side?

OS SCAPHOIDES.

163 What is the Os Scaphoides? (*Skaphe*, a boat.)

164 What is the direction of its concave surface?

165 What Muscle and Ligament are attached to the Tubercle of the Scaphoid?

166 What do you observe on its Dorsal aspect between the two convex surfaces?

167 With how many Bones does the Scaphoid articulate?

168 What Bone articulates with the Scaphoid on the convex or Dorsal surface?

169 What Bones articulate with it on the concave surface?

170 What Bones articulate with its upper border?

171 How do you distinguish the right Scaphoid Bone from the left?

OS SEMILUNARE.

172 What is the situation and form of the Os Semilunare?

173 What does this Bone present?

174 What Bone articulates with its convex surface?

175 What Bone articulates with its concave surface?

176 What Bone articulates with it on its Radial side?

177 What Bones articulate with it on its Ulnar side?

178 What is the form of the Dorsal extremity?

179 What is the form of the Palmar extremity?

180 With how many Bones does the Os Semilunare articulate?

181 How do you distinguish the right Os Semilunare from the left?

OS CUNEIFORME.

- 182 What is the situation and form of the Os Cuneiforme?
- 183 What does this Bone present?
- 184 What Bone articulates with it inferiorly?
- 185 What Bone articulates with it on its Radial side?
- 186 What Bone articulates with it anteriorly?
- 187 With how many Bones does the Os Cuneiforme articulate?
- 188 How do you distinguish the right Os Cuneiforme from the left?

OS PISIFORME.

- 189 What is the form and situation of the Os Pisiforme?
- 190 How do you distinguish this Bone from the other Carpal Bones?
- 191 What Muscles are attached to this Bone?
- 192 With how many Bones does the Os Pisiforme articulate?
- 193 How do you distinguish the right Os Pisiforme from the left?

OS TRAPEZIUM.

- 194 What is the form and situation of the Os Trapezium?
- 195 What do you observe on its Palmar surface?
- 196 What does the Tubercle give attachment to?
- 197 What does the Groove transmit?
- 198 With how many Bones does the Os Trapezium articulate?
- 199 What Muscles are attached to this Bone?
- 200 How do you distinguish the right Os Trapezium from the left?

OS TRAPEZOIDES.

- 201 What is the form and situation of the Os Trapezoides?
- 202 How many Articular surfaces does this Bone present?
- 203 What Bone articulates with the inferior or concavo-convex surface?
- 204 What Bone articulates with its superior surface?
- 205 What Bone articulates with it on the Radial side?
- 206 What Bone articulates with it on the Ulnar side?
- 207 With how many Bones does the Os Trapezoides articulate?
- 208 What Muscles are attached to this Bone?

09 How do you distinguish the right Os Trapezoides from the left?

OS MAGNUM.

10 Which is the largest Bone of the Carpus, and how is it usually divided?

11 What is the form of the Head and where is it situated?

12 What surfaces does the Body present?

13 How many Bones articulate with this Bone inferiorly?

14 How many Bones articulate with it superiorly?

15 What Bone articulates with it on its Ulnar side?

16 What Bone articulates with it on its Radial side?

17 With how many Bones does the Os Magnum articulate?

18 What Muscles are attached to this Bone?

19 How do you distinguish the right Os Magnum from the left?

OS UNCIFORME.

20 What is the form and situation of the Os Unciforme?

21 How many surfaces does it present?

22 How many Bones articulate with its base or inferior extremity?

23 What Bone articulates with its Apex or superior extremity?

24 What Bone articulates with it on its Radial side?

25 What Bone articulates with it on its Ulnar side?

26 With how many Bones does the Os Unciforme articulate?

27 What Muscles are attached to this Bone?

28 How do you distinguish the right Os Unciforme from the left?

29 How many Muscles are attached to the Carpal Bones?

30 From how many parts or centres is each Carpal Bone developed?

METACARPUS.

1 How many Bones compose the Metacarpus?

2 What is the situation of the Metacarpus?

3 How is a Metacarpal Bone divided?

4 What is the upper extremity called?

5 What is the lower extremity called?

- 236 What is the form of the Shaft?
- 237 What is the direction of the Medullary Canal which exists in the Shafts of the second, third, fourth and fifth Metacarpal Bones?
- 238 What is its direction in the first or Metacarpal Bone of the Thumb?
- 239 What Muscles are attached to the Shafts anteriorly and laterally?
- 240 What is the form of the Head or lower extremity?
- 241 With what Bones do the Heads of the Metacarpal Bones articulate?
- 242 What does the projection on either side the Head give attachment to?
- 243 What Bones articulate with the bases or upper extremities of the Metacarpal Bones?
- 244 With what Bone does the base of the first Metacarpal Bone articulate?
- 245 With what Bones does the base of the second Metacarpal Bone articulate?
- 246 With what Bones does the base of the third Metacarpal Bone articulate?
- 247 With what Bones does the base of the fourth Metacarpal Bone articulate?
- 248 With what Bones does the base of the fifth Metacarpal Bone articulate?
- 249 Which is the longest Metacarpal Bone?
- 250 Which is the shortest Metacarpal Bone?
- 251 How would you distinguish the first Metacarpal Bone?
- 252 How would you distinguish the first Metacarpal Bone of the right side from that of the left?
- 253 How many Muscles are attached to the first Metacarpal Bone?
- 254 How would you distinguish the second Metacarpal Bone?
- 255 How would you distinguish the second Metacarpal Bone of the right hand from that of the left?
- 256 What Muscles are attached to the second Metacarpal Bone?

- 257 How would you distinguish the third Metacarpal Bone?
- 258 How would you distinguish the third Metacarpal Bone of the right hand from that of the left?
- 259 What Muscles are attached to the third Metacarpal Bone?
- 260 To what part of the base of the Metacarpal Bone of the third or middle finger is the Extensor Carpi Radialis Brevior inserted?
- 261 How would you distinguish the fourth Metacarpal Bone?
- 262 How would you distinguish the fourth Metacarpal Bone of the right hand from that of the left.
- 263 What Muscles are attached to the fourth Metacarpal Bone?
- 264 How would you distinguish the fifth Metacarpal Bone?
- 265 How would you distinguish the fifth Metacarpal Bone of the right hand from that of the left?
- 266 What Muscles are attached to the fifth Metacarpal Bone?
- 267 With how many Bones do the Metacarpal Bones articulate?
- 268 From how many parts or centres is each Metacarpal Bone developed?

PHALANGES.

- 269 How many Bones compose the Fingers?
- 270 How is a Phalanx divided?
- 271 What is the form of the shaft or body?
- 272 What do you observe on either side the flat surfaces?
- 273 What is the form of the Articular surface at the base or Metacarpal extremity?
- 274 What does the small Tubercle on either side the base or Metacarpal extremity give attachment to?
- 275 How do the Heads or lower extremities terminate?
- 276 How do you distinguish the first row of Phalanges from the second row?
- 277 How do you distinguish the second row of Phalanges?
- 278 How do you distinguish the third or last row?
- 279 What Bones articulate with the first row of Phalanges?
- 280 What Bones articulate with the second row?
- 281 What Bones articulate with the last or Ungual Phalanges?

- 282 What Bones of the Hand not only admit of flexion or extension, but also of lateral movement?
- 283 What Muscles are attached to the first row of Phalanges?
- 284 What Muscles are attached to the second row of Phalanges?
- 285 What Muscles are attached to the last row of Phalanges?
- 286 Where is the Extensor Indicis inserted?
- 287 From how many parts or centres is each Phalanx developed?

OSSA SESAMOIDEA.

- 288 What are the Sesamoid Bones? (Greek, *sesame*, an indian bean; and *eidos*, likeness.)
- 289 Name the Muscle whose Tendon lies in the Groove between the inserted Tendons of the Flexor Brevis Pollicis Pedis?

SECTION IX.—BONES OF THE LOWER EXTREMITY.

- 1 How are the Bones of the lower extremity divided?
 - 2 Which is the longest and strongest Bone of the Skeleton?
- #### FEMUR.
- 3 How is the Femur divided?
 - 4 What is the form of the body?
 - 5 What is the name of the rough longitudinal ridge on its posterior surface?
 - 6 Where do the superior Bifurcations terminate?
 - 7 Where do the inferior Bifurcations terminate?
 - 8 What is the name of the triangular space formed by the divergence of the inferior ridges?
 - 9 What does the superior extremity present?
 - 10 What is the direction of the Head?
 - 11 What is the direction of the Neck?
 - 12 How many surfaces does the Neck present?
 - 13 Which is the largest surface?
 - 14 What is the direction and form of the superior surface?
 - 15 What is the appearance of the anterior surface?
 - 16 What is the Trochanter Major?
 - 17 What Muscle is attached to the oblique impression on its anterior surface?

- 18 What Muscle is attached to the anterior and outer part of the base or inferior surface?
- 19 What Tendons are inserted into the upper border of the Trochanteric or Digital Fossa?
- 20 What Tendon is inserted into the Digital Fossa?
- 21 What is the Trochanter Minor?
- 22 What Muscles are attached to this process?
- 23 What is the name of the two oblique ridges which extend from one Trochanter to the other anteriorly and posteriorly?
- 24 What does the anterior Inter-trochanteric ridge form?
- 25 What does the inferior extremity present?
- 26 Which Condyle projects most inferiorly and posteriorly?
- 27 What divides the Condyles posteriorly?
- 28 What does the Tuberosity on the external Condyle give attachment to?
- 29 What does the upper and outer surface of this Tuberosity give attachment to.
- 30 What does the Tuberosity on the internal Condyle give attachment to?
- 31 What does the rough impression on the posterior aspect of the inner Condyle give attachment to?
- 32 What does the Triceps Extensor consist of?
- 33 What Muscles are attached to the anterior surface of the Femur?
- 34 What Muscle is attached to the inner side of the Femur towards its anterior surface?
- 35 What Muscle is attached to the outer side of the Femur towards its posterior surface?
- 36 What Muscle is situated between the two Vasti on the middle of its anterior surface?
- 37 What Muscles are situated between the two Vasti on the posterior and inner surface?
- 38 What Muscle is attached to the Line (Linea Quadrati) between the two Trochanters on the posterior aspect?
- 39 Where does the origin of the short Head of the Biceps commence?
- 40 What Muscle arises from the Fossa on the outer surface of the external Condyle?

- 41 What is situated between the common Tendon of the Psoas Magnus and Iliacus and the lesser Trochanter?
- 42 How many Muscles are attached to the Femur?
- 43 With how many Bones does the Femur articulate?
- 44 From how many parts or centres is this Bone developed?

PATELLA.

- 45 What is the Patella?
- 46 What is its situation and form?
- 47 How is the Bone divided?
- 48 What is the form of the anterior surface?
- 49 What is the appearance of the posterior surface?
- 50 Which is the largest Articular surface?
- 51 What is attached to the base or upper surface?
- 52 What is attached to the Apex?
- 53 With how many Bones does the Patella articulate?
- 54 From how many parts or centres is this Bone developed?

BONES OF THE LEG.

- 55 How many Bones compose the Leg?
- 56 Which is the strongest Bone of the Leg?

TIBIA.

- 57 What is the situation of the Tibia?
- 58 How is this Bone divided?
- 59 What is the form of the Shaft?
- 60 How many surfaces does it present?
- 61 What is the appearance of the internal surface?
- 62 What is the appearance of the external surface?
- 63 What does the upper two-thirds of this surface give attachment to?
- 64 What do you observe on the posterior surface?
- 65 What Muscle is attached to the triangular space above this oblique line?
- 66 What Muscles are attached to the posterior surface below this oblique line?
- 67 What Canal do you observe just below this oblique line?
- 68 What does the Head or upper extremity of the Bone present?
- 69 What is the form of the outer Articular surface?
- 70 What is the form of the inner Articular surface?

- 71 What do you observe between the two Articular surfaces?
- 72 What does the rough depression anterior and posterior to the Spinous process give attachment to?
- 73 What does the Articular surface behind the external Tuberosity correspond to?
- 74 What does the external Tuberosity of the Tibia give attachment to?
- 75 What does the internal Tuberosity of the Tibia and the surface below it give attachment to?
- 76 What do you observe about one inch and a half below the Head of the Bone?
- 77 What is the form of the lower or Tarsal extremity?
- 78 What does the large process on its inner side form?
- 79 What does the Groove on the posterior surface of the inner Malleolus transmit?
- 80 In what Bone is the Groove situated through which the Tendon of the Flexor Longus Pollicis Pedis passes, ere it crosses the Sole of the Foot to reach the Great Toe?
- 81 What does the rough impression on the outer side of this extremity give attachment to?
- 82 What does the smooth surface below it correspond to?
- 83 With what does the Articular surface at the extremity of the Bone articulate?
- 84 What is situated between the insertion of the Common Extensor Tendon and the Tibia?
- 85 With how many Bones does the Tibia articulate?
- 86 How many Muscles are attached to this Bone?
- 87 From how many parts or centres is this Bone developed?
- 88 Which is the longest Bone of the Leg?

FIBULA.

- 89 What is the situation of the Fibula?
- 90 How is the Bone divided?
- 91 What is the form of the Shaft?
- 92 How many surfaces does it present?
- 93 What do you observe on the internal surface?
- 94 What is attached to this ridge, and what does it divide?
- 95 What does the Grooved surface on the inner part of the Fibula behind this ridge give attachment to?

- 96 What does the inner surface of the Fibula anterior to the Interosseus Membrane give attachment to?
- 97 Which is the broadest surface?
- 98 What Muscles are attached to the external surface?
- 99 What do you observe about the middle of the Bone on its posterior surface?
- 100 What Muscles are attached to this posterior surface?
- 101 How many borders does the Shaft present?
- 102 What becomes of the internal border?
- 103 Where does the external border commence?
- 104 Where does the posterior border terminate?
- 105 What does the upper extremity of the Fibula form?
- 106 What is the form of the Articular surface on its inner side?
- 107 Name the projection on the outer side of the Head.
- 108 What is attached to this process?
- 109 What does the lower or Tarsal extremity form?
- 110 What is the form of its inner articular surface?
- 111 What is attached to the rough depression immediately above this Articular surface?
- 112 What does the Groove on its posterior surface give passage to?
- 113 What does the Apex give attachment to?
- 114 With how many Bones does the Fibula articulate?
- 115 How many Muscles are attached to this Bone?
- 116 From how many parts or centres is this Bone developed?

BONES OF THE FOOT.

- 117 How many Bones compose the Foot?
- 118 How are the Bones of the Foot arranged?

TARSUS.

- 119 What is the situation of the Tarsus?
- 120 How many Bones compose the Tarsus?
- 121 Which is the most superior Bone of the Tarsus?

ASTRAGALUS.

- 122 How is the Astragalus divided?
- 123 What do you observe on the superior surface?
- 124 What do you observe on the inferior surface?
- 125 What is the form and direction of these Articular surfaces?

- 126 What do you observe on the external border?
- 127 What do you observe on the internal border?
- 128 What does the anterior extremity present?
- 129 What does the posterior extremity present?
- 130 How do you distinguish the right Astragalus from the left?
- 131 With how many Bones does the Astragalus articulate?
- 132 How many Muscles are attached to this Bone?
- 133 Which is the largest and strongest Bone of the Foot.

OS CALCIS.

- 134 What is the situation of the Os Calcis?
- 135 How is the Bone divided?
- 136 What does the superior surface present?
- 137 What do these Articular surfaces correspond to?
- 138 What does the Groove between the Articular surfaces give attachment to?
- 139 How is this Groove formed into a Canal?
- 140 What is the appearance of the inferior surface?
- 141 What do these Tubercles give attachment to?
- 142 What is the appearance of the internal surface?
- 143 What is the name and use of the projecting process at the anterior part of this surface?
- 144 What does this process give attachment to?
- 145 What does the Groove near this process admit?
- 146 What is the appearance of the external surface?
- 147 What do these two Grooves give passage to?
- 148 What does the anterior extremity present?
- 149 What does the rough projection on the Dorsal surface give attachment to?
- 150 What does the posterior extremity present?
- 151 With how many Bones does the Os Calcis articulate?
- 152 How many Muscles are attached to this bone?

OS SCAPHOIDES.

- 153 What is the situation of the Os Scaphoides vel Naviculare? (*Skaphe, navis.*)
- 154 How is this Bone divided?
- 155 What is the appearance of the anterior surface?
- 156 What is the appearance of the posterior surface?

- 157 What is the appearance of the superior border?
- 158 What is the appearance of the inferior border?
- 159 What does the external extremity present?
- 160 What does the internal extremity present?
- 161 What does this Tubercle give attachment to?
- 162 What is frequently met with beneath this inserted Tendon?
- 163 With how many Bones does the Os Scaphoides articulate?
- 164 How many Muscles are attached to this Bone?
- 165 What Artery passes between the two Heads of the Tibialis Posticus Muscle?
- 166 How would you distinguish the right Os Scaphoides from the left?

OS CUBOIDES.

- 167 What is the situation of the Os Cuboides?
- 168 How is this Bone divided?
- 169 How are the Articular surfaces divided?
- 170 Which is the largest Articular surface?
- 171 What does this Articular surface correspond to?
- 172 What does the anterior Articular surface present?
- 173 What does the internal Articular surface present?
- 174 How are the Non-articular surfaces divided?
- 175 What is the form and use of the superior Non-articular surface?
- 176 What does the inferior Non-articular surface present?
- 177 What Ligament does the projecting ridge on this under surface and behind the Groove give attachment to?
- 178 Which is the smallest Non-articular surface?
- 179 With how many Bones does the Os Cuboides articulate?
- 180 How many Muscles are attached to this Bone?
- 181 How do you distinguish the right Os Cuboides from the left?

OSSA CUNEIFORMIA.

- 182 How many Ossa Cuneiformia are there?
- 183 Which is the largest Bone of the three?
- 184 How is the first Bone divided?
- 185 What does the anterior surface correspond to?

- 186 What does the inferior surface give attachment to?
- 187 What does the posterior surface correspond to?
- 188 What does the external surface correspond to?
- 189 What does the internal surface present?
- 190 With how many Bones does the first Cuneiform Bone articulate?
- 191 How many Muscles are attached to this Bone?
- 192 How would you distinguish the first Cuneiform Bone of the right Foot from that of the left?
- 193 Which is the smallest of the three Cuneiform Bones?
- 194 What is the form and situation of the middle Cuneiform Bone?
- 195 How is the Bone divided?
- 196 With what Bone does its anterior surface articulate?
- 197 With what Bone does its posterior surface articulate?
- 198 With what Bone does its external surface articulate?
- 199 With what Bone does its internal surface articulate?
- 200 With how many Bones does the middle Cuneiform Bone articulate?
- 201 How many Muscles are attached to this Bone?
- 202 How do you distinguish the second Cuneiform Bone from the corresponding Bone in the opposite Foot.
- 203 What is the form and situation of the external Cuneiform Bone?
- 204 How is the Bone divided?
- 205 With what Bone does the anterior surface articulate?
- 206 With what Bone does the posterior surface articulate?
- 207 With what Bones does the external surface articulate?
- 208 With what Bones does the internal surface articulate?
- 209 With how many Bones does the external Cuneiform Bone articulate?
- 210 How many Muscles are attached to this Bone?
- 211 How do you distinguish the third Cuneiform Bone of the right Foot from that of the left?
- 212 From how many parts or centres is each Tarsal Bone developed?
- 213 How many Muscles are attached to the Tarsus?

METATARSUS.

- 214 What is the situation of the Metatarsus?
- 215 How many Bones compose the Metatarsus?
- 216 Which is the shortest and strongest Metatarsal Bone?
- 217 Which is the longest Metatarsal Bone?
- 218 How is a Metatarsal Bone divided?
- 219 What is the general form of the Shaft?
- 220 What is the form of the Articular surfaces at their bases?
- 221 With what Bones do their bases articulate?
- 222 With what Bones do their Heads articulate?

FIRST METATARSAL BONE.

- 223 With what Bone does the base of the first Metatarsal Bone articulate?
- 224 What do you observe on its Plantar surface near the base?
- 225 What do you observe on its Plantar surface near the Head?
- 226 With how many Bones does the first Metatarsal Bone articulate?
- 227 What Muscles are attached to this Bone?
- 228 How do you distinguish the first Metatarsal Bone of the right foot from that of the left?

SECOND METATARSAL BONE.

- 229 How many Articular surfaces does the base of this Bone present?
- 230 With how many Bones does this Bone articulate?
- 231 What Muscles are attached to this Bone?
- 232 How do you distinguish the second Metatarsal Bone of the right Foot from that of the left?

THIRD METATARSAL BONE.

- 233 How many Articular surfaces does the base of this Bone present?
- 234 With how many Bones does this Bone articulate?
- 235 What Muscles are attached to this Bone?
- 236 How do you distinguish the third Metatarsal Bone of the right foot from that of the left?

FOURTH METATARSAL BONE.

- 237 How many Articular surfaces does the base of this Bone present?

- 238 With how many Bones does this Bone articulate?
 239 How many Muscles are attached to this Bone?
 240 How do you distinguish the fourth Metatarsal Bone of the right foot from that of the left?

FIFTH METATARSAL BONE.

- 241 How many Articular surfaces does the base of this Bone present?
 242 What does this Bone on the outer side of its base present?
 243 What Muscles does this process give attachment to?
 244 With how many Bones does this Bone articulate?
 245 How many Muscles are attached to this Bone?
 246 How do you distinguish the fifth Metatarsal Bone of the right Foot from that of the left?

PHALANGES OF THE TOES.

- 247 How many Bones compose the Toes?
 248 How is a Toe divided?
 249 What is the general form of those in the first row?
 250 What does the posterior extremity or base of the first row present?
 251 What does the anterior or upper extremity present?
 252 With how many Bones does the first row of Phalanges articulate?
 253 What does the posterior extremity or base of the second row present?
 254 What does the anterior or upper extremity present?
 255 What does the second Phalanx of the Great Toe correspond to?
 256 With what Bones does the second row articulate?
 257 What does the last row of Phalanges articulate with?
 258 What is the appearance of the upper extremity?
 259 Name the Muscles attached to the first Phalanges.
 260 Name the Muscles attached to the second Phalanges.
 261 Name the Muscles attached to the third or last row of Phalanges.
 262 From how many parts or centres is each Phalanx
 263 What is the name of the two small oval Bones which exist under the first joint (metatarso-phalangeal) of the Great Toe?

SECTION X.—CHONDRLOGY.

CARTILAGES.

- 1 Enumerate the structures of which a joint is composed?
- 2 What are Cartilages?
- 3 How many kinds of Cartilages are there?
- 4 What are Diarthroidal Cartilages?
- 5 What are Synarthroidal Cartilages?
- 6 Name some of the Interarticular Fibro-Cartilages which exist in joints.
- 7 What is the name of the Fibro-Cartilage which serves to connect the bodies of the Vertebrae?
- 8 In what parts do Cartilages supply the place of Bone?

SECTION XI.—SYNDESMOLOGY.

LIGAMENTS.

- 1 What are Ligaments?
- 2 How are Ligaments divided?
- 3 Name instances of the Capsular Ligament.
- 4 How are the Connecting Ligaments arranged?
- 5 What is the name of the yellow elastic Tissue which serves to connect the Arches or Plates of the Vertebrae?
- 6 What are the Synovial Membranes of Joints?
- 7 What Fluid do these Synovial Membranes secrete?

ARTICULATIONS OF THE JOINTS.

- 8 How are the Articulations of the Joints arranged?
- 9 How may the Ligaments of the Trunk be divided?

ARTICULATIONS OF THE SPINE.

- 10 Name the Ligaments which connect the Bodies of the Vertebrae.
- 11 What is the extent of the Ligamentum Commune Anterius?
- 12 What is the extent of the Ligamentum Commune Posterius?
- 13 Where are the Ligamenta-inter-Vertebralia situated?
- 14 Name the Ligaments which connect the Arches or Plates of the Vertebrae.
- 15 Name the Ligaments which connect the Articular processes of the Vertebrae.

- 16 Name the Ligaments which connect the Spinous processes of the Vertebrae.
- 17 Where are the Supra-spinous Ligaments situated?
- 18 What is the name of the Fibrous Cord which supplies the place of the preceding in the Neck, as far as the Tuberosity of the Occipital Bone?
- 19 Where are the Inter-spinous Ligaments situated?
- 20 Name the Ligaments which connect the Transverse processes of the Vertebrae.
- 21 Where are the Inter-transverse processes situated?

ARTICULATIONS OF THE CRANIUM.

- 22 Name the Ligaments which connect the Atlas with the Os Occipitis.
- 23 What is the extent of the anterior Ligament?
- 24 What is the extent of the posterior Ligament?
- 25 What Artery and Nerve pass beneath the inferior attachment of the posterior Occipito-atloid Ligament?
- 26 Where are the Capsular Ligaments situated?
- 27 Name the Ligaments which connect the Axis with the Os Occipitis.
- 28 What is the extent of the Occipito-axoidean Ligament?
- 29 What is the extent of the Check Ligaments?

ATLAS WITH THE AXIS.

- 30 Name the Ligaments which connect the Atlas with the Axis.
- 31 What is the extent of the anterior (Atlo-axoid) Ligament?
- 32 What is the extent of the posterior (Atlo-axoid) Ligament?
- 33 What is the situation of the Transverse Ligament?
- 34 What is the use of this Ligament?

TEMPORO-MAXILLARY ARTICULATION.

- 35 Name the Ligaments which connect the lower Jaw with the Glenoid Cavity of the Temporal Bone.
- 36 What is the extent of the external lateral Ligament?
- 37 What is the extent of the internal lateral Ligament?
- 38 What Nerve pierces it at its lower attachment?
- 39 What is situated in the triangular space formed by the internal lateral Ligament and Neck of the Jaw?
- 40 Where is the Stylo-maxillary Ligament situated?

- 41 Between what Muscles is the Stylo-maxillary Ligament attached?
- 42 What Glands does the Stylo-maxillary Ligament separate?
- 43 Where is the Inter-articular Fibro-cartilage situated?
- 44 What Muscular Fibres does it give insertion to anteriorly?

ARTICULATIONS OF THE TRUNK.

- 45 Name the Ligaments which connect the Heads of the Ribs to the Vertebrae.
- 46 Name the Ribs which have have no Inter-articular Fibro-cartilage.
- 47 Name the Ligaments which connect the Necks and Tubercles of the Ribs to the Transverse processes.
- 48 Which of these Ligaments are the largest?
- 49 In which Rib is the anterior Costo-transverse Ligament absent?
- 50 Name the Ligaments which connect the Cartilages of the true Ribs to the Sternum.
- 51 Name the Ligaments which connect the Vertebral Column with the Pelvis.
- 52 What is the extent of the Lumbo-sacral Ligament?
- 53 What is the extent of the Lumbo-iliac Ligament?

ARTICULATIONS OF THE PELVIS.

- 54 Name the Ligaments which connect the Sacrum with the Ilium.
- 55 Name the Ligaments which connect the Sacrum with the Ischium.
- 56 What does the upper border of the anterior or smaller Sacro-ischiatic Ligament assist to form?
- 57 What does the lower border of the anterior or smaller Sacro-ischiatic Ligament assist to form?
- 58 What is the extent of the anterior Sacro-ischiatic Ligament?
- 59 What is the extent of the posterior or greater Sacro-ischiatic Ligament?
- 60 Name the Ligaments which connect the Sacrum with the Coccyx.
- 61 Name the Ligaments which connect the Ossa Pubis.
- 62 What does the Sub-pubic Ligament form?

63 What is the Oburator Ligament or Membrane?

64 What Muscles are attached to this Membrane?

65 What pierces the upper part of this Membrane?

SECTION XII.—LIGAMENTS OF THE UPPER EXTREMITY.

- 1 Name the Ligaments which connect the Sternum with the Clavicle.
- 2 What is the extent of the Inter-articular Ligament?
- 3 What is the extent of the Costo-clavicular Ligament?
- 4 Name the Ligaments which connect the Scapula with the Clavicle.
- 5 What does the Coraco-clavicular Ligament consist of?
- 6 Name the special or proper Ligaments of the Scapula.
- 7 What is the extent of the posterior or transverse Ligament?
- 8 What Nerve passes through this Foramen?
- 9 What is the extent of the anterior proper Ligament of the Scapula?
- 10 Why are these called the special or proper Ligaments of the Scapula?
- 11 Name the Ligaments of the Shoulder-joint.
- 12 What is the extent of the Coraco-humeral Ligament?
- 13 What is the situation of the Glenoid Ligament?
- 14 Name the Ligaments of the Elbow-joint.
- 15 What is the extent of the external lateral Ligament?
- 16 What is the extent of the internal lateral Ligament?
- 17 What Nerve is in relation with this Ligament?
- 18 What is the extent of the anterior Ligament?
- 19 What Muscle covers in the anterior Ligament?
- 20 What is the extent of the posterior Ligament?
- 21 What Muscle covers in the posterior Ligament?
- 22 Name the Ligaments which connect the Radius with the Ulna at the upper part and shafts of the Bones.
- 23 What is the situation of the Annular or Coronary Ligament?
- 24 What is the situation of the Interosseus Ligament?
- 25 What Artery pierces this Membrane at its lower end?
- 26 What is the extent of the round Ligament?

- 27 Name the Ligaments which connect the Radius with the Ulna at the lower part.
- 28 Where is the Inter-articular Fibro-cartilage situated?
- 29 Name the Ligaments which connect the Wrist Joint.
- 30 What is the extent of the internal lateral Ligament?
- 31 What is the extent of the external lateral Ligament?
- 32 What is the extent of the anterior Ligament?
- 33 What is the extent of the posterior Ligament?
- 34 Name the Ligaments of the Carpus.
- 35 What is the extent of the anterior Annular Ligament?
- 36 Where are the lateral Ligaments situated?
- 37 What is the extent of the external lateral Ligament?
- 38 What is the extent of the internal lateral Ligament?
- 39 Name the Ligaments which connect the Carpal with the Metacarpal Bones.
- 40 Name the Ligaments which connect the Metacarpal Bones with the first row of Phalanges.
- 41 Name the Ligaments which connect the Phalanges.

SECTION XIII.—LIGAMENTS OF THE LOWER EXTREMITY.

- 1 How may the Ligaments of the lower extremity be arranged?
- 2 Name the Ligaments of the Hip-joint.
- 3 What is the Ilio-femoral Ligament?
- 4 What is the Cotyloid Ligament?
- 5 How is the Transverse Ligament formed?
- 6 What Vessels pass through this Foramen?
- 7 What is the situation of the Ligamentum Teres?
- 8 Name the Ligaments of the Knee-joint.
- 9 What is the extent of the external lateral Ligament?
- 10 What is the extent of the internal lateral Ligament?
- 11 How is the posterior Ligament formed?
- 12 What is the anterior Ligament?
- 13 What is situated between this Ligament and the Tubercle of the Tibia?
- 14 What is the extent of the anterior Crucial Ligament?
- 15 What is the extent of the posterior Crucial Ligament?

- 16 What is the form of the internal Semi-lunar Cartilage?
- 17 What is the form of the external Semi-lunar Cartilage?
- 18 What is the extent of the transverse Ligament?
- 19 Name the Ligaments which connect the Tibia with the Fibula at the upper part and shafts of the Bones.
- 20 What is the extent of the anterior Ligament?
- 21 What is the extent of the posterior Ligament?
- 22 What is the situation of the Interosseous Ligament?
- 23 What Vessel does the aperture above the Septum transmit?
- 24 What Vessel does the lower opening transmit?
- 25 Name the Ligaments which connect the Tibia with the Fibula at the lower part of the Bones.
- 26 What is the extent of the anterior Ligament?
- 27 What is the extent of the posterior Ligament?
- 28 What is the situation of the inferior Ligament?
- 29 Enumerate the Ligaments of the Ankle-joint.
- 30 What is extent of the Tibio-tarsal Ligament?
- 31 What is the extent of the internal lateral or Deltoid Ligament?
- 32 What is the extent of the external lateral Ligament?

ARTICULATIONS OF THE TARSUS.

- 33 Name the Ligaments which connect the Astragalus with the Os Calcis.
- 34 Name the Ligament which connects the Astragalus with the Os Scaphoides.
- 35 Name the Ligaments which connect the Os Calcis with the Os Scaphoides.
- 36 Name the Ligaments which connect the Os Calcis with the Os Cuboides.
- 37 Name the Ligaments which connect the Os Scaphoides with the three Cuneiform Bones?
- 38 Name the Ligaments which connect the Os Scaphoides with the Os Cuboides.
- 39 Name the Ligaments which connect the three Cuneiform Bones to each other.
- 40 Name the Ligaments which connect the external Cuneiform with the Cuboid Bone.

ARTICULATIONS OF THE METATARSAL BONES.

- 41 Which of the Metatarsal Bones are connected at their bases by Ligaments?
- 42 Name the Ligaments by which they are connected.
- 43 Name the Ligaments which connect the Heads or Digital extremities of the Metatarsal Bones.
- 44 Name the Ligaments which connect the Metatarsus with the Phalanges.

ARTICULATIONS OF THE PHALANGES.

- 45 Name the Ligaments which connect the Phalanges.

Page 46. in A. SECTION XIV.—MYOLOGY.

- 1 What is Myology?
- 2 What are Muscles?
- 3 What are Tendons of Muscles?
- 4 What names do Muscles derive from the arrangement of their Fibres?
- 5 Name some of those Muscles whose Tendons form broad expansions.
- 6 How are the particular names of Muscles sometimes derived?
- 7 In speaking of the attachment of a Muscle, what do you mean by its "origin?"
- 8 What do you mean by the "insertion" of a Muscle?

MUSCLES OF THE HEAD, FACE, AND NECK.

- 9 How may the Muscles of the Head, Face and Neck be arranged?

CRANIAL REGION.

- 10 How many Muscles compose the Cranial Region?
- 11 What is the origin and insertion of the Occipito-frontalis Muscle?
- 12 Where do the two Muscles unite anteriorly?

ORBITO-OCULAR REGION.

- 13 How many Muscles compose this region?
- 14 Enumerate the Orbital Muscles of this region?
- 15 What is the origin and insertion of the Orbicularis Palpebrarum?
- 16 What is the origin and insertion of the Corrugator Supercilii?

- 17 What is the origin and insertion of the Tensor Tarsi or Lachrymal Muscle?
- 18 What is the origin and insertion of the Levator Palpebræ Superioris?
- 19 What is the origin and insertion of the Rectus Superior vel Attollens?
- 20 What is the origin and insertion of the Rectus Inferior vel Depressor?
- 21 What is the origin and insertion of the Rectus Internus vel Adductor?
- 22 What is the origin and insertion of the Rectus Externus vel Abductor?
- 23 What Nerves pass between the two Heads of the Rectus Oculi Externus?
- 24 What is the origin and insertion of the Obliquus Superior vel Trochlearis?
- 25 What is the origin and insertion of the Obliquus Inferior?

NASAL REGION.

- 26 Name the Muscles of this Region.
- 27 What is the origin and insertion of the Pyramidalis Nasi?
- 28 What is the form, origin and insertion of the Compressor Naris?
- 29 What is the origin and insertion of the Levator Labii Superioris Alæque Nasi?
- 30 What is the origin and insertion of the Depressor Labii Superioris Alæque Nasi?

SUPERIOR AND INFERIOR LABIAL REGION.

- 31 Name the Muscles of this Region.
- 32 What is the situation of the Orbicularis Oris?
- 33 What is the origin and insertion of the Levator Labii Superioris Proprius?
- 34 What is the origin and insertion of the Levator Anguli Oris?
- 35 What is the origin and insertion of the Zygomaticus Major?
- 36 What is the origin and insertion of the Zygomaticus Minor?
- 37 What is the origin and insertion of the Buccinator?

- 38 What is the origin and insertion of the Depressor Labii Inferioris?
- 39 What is the origin and insertion of the Depressor Anguli Oris?
- 40 What is the origin and insertion of Levator Labii Inferioris?

PTERYGO-MAXILLARY REGION.

- 41 Name the Muscles of the Pterygo-maxillary Region.
- 42 What is the origin and insertion of the Masseter Muscle?
- 43 What passes over the upper part of the Masseter Muscle?
- 44 What is the origin and insertion of the Temporal Muscle?
- 45 What is the origin and insertion of the Pterygoideus Externus?
- 46 What Artery passes between the two heads or origins of the Pterygoideus Externus Muscle?
- 47 What is the origin and insertion of the Pterygoideus Internus?
- 48 What Muscle resembles the Pterygoideus Internus in appearance and direction?

AURICULAR REGION.

- 49 Name the Muscles of the Auricular Region.
- 50 What is the origin and insertion of the Attollens Aurem?
- 51 What is the origin and insertion of the Attrahens Aurem?
- 52 What Vessels are placed beneath the Attrahens Aurem?
- 53 What is the origin and insertion of the Retrahens Aurem?
- 54 What Artery and Nerve are in connection with the Retrahens Aurem?

SECTION XV.—MUSCLES OF THE NECK.

- 1 How may the Muscles of the Neck be arranged?

SUPERFICIAL REGION.

- 2 Name the Muscles of the Superficial Region.
- 3 What is the origin and insertion of the Platysma Myoides?
- 4 What is the situation, origin, and insertion of the Sterno-cleido-Mastoideus?
- 5 What Nerve perforates the fibres of this Muscle at its upper third?

SUB-MAXILLARY REGION.

- 6 Name the Muscles of the Sub-maxillary Region.
- 7 What is the origin and insertion of the Digastricus?
- 8 What Muscle does the anterior belly rest on?
- 9 What is the posterior belly covered by?
- 10 What is the origin and insertion of the Stylo-hyoid Muscle?
- 11 Is this Muscle always present?
- 12 What is the origin and insertion of the Stylo-glossus?
- 13 What is the origin and insertion of the Stylo-pharyngeus?
- 14 Between what Arteries does this Muscle lie?

GENIO-HYOID REGION.

- 15 Name the Muscles of the Genio-hyoid region.
- 16 What is the origin and insertion of the Mylo-hyoideus?
(*Mule, mola.*)
- 17 What is the origin and insertion of the Genio-hyoideus?
(*Geneion, chin.*)
- 18 What is the origin and insertion of the Genio-hyo-glossus?
- 19 What Nerve perforates the posterior Fibres of this Muscle?
- 20 What is the origin and insertion of the Hyo-glossus?
- 21 Name the three divisions which this Muscle has received.
- 22 Between what Muscles does the Hyo-glossus pass to its insertion?
- 23 What is the origin and insertion of the Lingualis?
- 24 Between what Muscles does the Lingualis lie?

STERNO-HYOID REGION.

- 25 Name the Muscles of the Sterno-hyoid Region beneath the Os Hyoides.
- 26 What is the origin and insertion of the Sterno-hyoid?
- 27 What is the origin and insertion of the Sterno-thyroid?
- 28 What is the origin and insertion of the Thyro-hyoid?
- 29 What is the origin and insertion of the Omo-hyoid?

PRÆVERTEBRAL REGION.

- 30 Name the Muscles of the Prævertebral Region.

LATERAL REGION.

- 31 What is the origin and insertion of the Scalenus Anticus?
- 32 What is the origin and insertion of the Scalenus Medius?
- 33 What is the origin and insertion of the Scalenus Posticus?

ANTERIOR REGION.

- 34 What is the origin and insertion of the Rectus Capitis Lateralis?
- 35 What is the origin and insertion of the Rectus Capitis Anticus Major?
- 36 What is the origin and insertion of the Rectus Capitis Anticus Minor?
- 37 What is the origin and insertion of Longus Colli?

LARYNGEAL REGION.

Larynx.

- 38 What does the Larynx form?
- 39 Where is the Larynx situated?
- 40 What is the Larynx composed of?

CARTILAGES OF THE LARYNX.

- 41 Enumerate the Cartilages of the Larynx.
- 42 What name is given to the projection formed by the union of the lateral portions or Alæ of the Thyroid Cartilage in the middle line anteriorly?
- 43 Enumerate the Fibro-cartilages of the Larynx.
- 44 What is the situation of the Epiglottis?
- 45 What is the Glottis or Rima-glottidis?
- 46 How may the Ligaments of the Larynx be divided?
- 47 Name the Special Muscles of the Larynx.
- 48 What is the origin and insertion of the Crico-thyroideus?
- 49 What is the origin and insertion of the Crico-arytænoideus Posticus?
- 50 What is the origin and insertion of the Arytænoideus?
- 51 What is the origin and insertion of the Crico-arytænoideus Lateralis?
- 52 What is the origin and insertion of the Thyro-arytænoideus?
- 53 What is the origin and insertion of the Thyro-arytæno-epiglottideus?
- 54 Name the three Muscles of the Epiglottis which some give to the preceding Muscle.

PHARYNGEAL REGION.

Pharynx.

- 55 What is the Pharynx?

- 56 Enumerate the Cavities which communicate with it anteriorly.
- 57 Name the Muscles of the Pharynx.
- 58 What is the origin and insertion of the Constrictor Inferior?
- 59 What is the origin and insertion of the Constrictor Medius?
- 60 What is the origin and insertion of the Constrictor Superior?

PALATAL REGION.

- 1 Name the Muscles of the Soft Palate.
- 2 What is the origin and insertion of the Levator Palati?
- 3 What is the origin and insertion of the Tensor vel Circumflexus Palati?
- 4 What is the origin and insertion of the Palato-glossus (Ver Constrictor Isthmi Faucium)?
- 5 What is the origin and insertion of the Palato-pharyngeus?
- 6 What is the origin and insertion of the Azygos-uvulæ?
- 7 What was the Uvula called by Celsus?

SECTION XVI.—MUSCLES OF THE TRUNK. 81.

- 1 How are the Muscles of the Trunk arranged?
- 2 How are the Muscles of the Back divided?
- 3 Name the Muscles of the first Layer.
- 4 What is the origin and insertion of the Trapezius?
- 5 Name the Muscle whose origin corresponds with the insertion of the Trapezius.
- 6 What is the origin and insertion of the Latissimus Dorsi?
- 7 Name the Muscles of the second Layer.
- 8 What is the origin and insertion of the Levator Anguli Scapulæ?
- 9 What is the origin and insertion of the Rhomboideus Major?
- 10 What is the origin and insertion of the Rhomboideus Minor?
- 11 Name the Muscles of the third Layer.
- 12 What is the origin and insertion of the Serratus Posticus Superior?

- 13 What is the origin and insertion of the *Serratus Posticus Inferior*?
- 14 What is the origin and insertion of the *Splenius*?
- 15 Name the Muscles of the fourth Layer.
- 16 What is the origin and insertion of the *Spinalis Dorsi*?
- 17 Name the Muscles associated under the name of *Erector-spinae*.
- 18 What is the origin and insertion of the *Sacro-lumbalis*?
- 19 What is the *Musculus Accessorius ad Sacro Lumbalem*?
- 20 What is the *Cervicalis Ascendens*?
- 21 What is the origin and insertion of the *Longissimus Dorsi*?
- 22 What is the *Transversalis Colli*?
- 23 What is the *Trachelo-mastoideus*?
- 24 What is the origin and insertion of the *Complexus* (*Trachelo-occipitalis*)?
- 25 What is the *Biventer Cervicis*?
- 26 Name the Muscles of the fifth Layer.
- 27 What is the origin and insertion of the *Rectus Capitis Posticus Major*?
- 28 What is the origin and insertion of the *Rectus Capitis Posticus Minor*?
- 29 What is the origin and insertion of the *Obliquus Inferior*?
- 30 What is the origin and insertion of the *Obliquus Superior*?
- 31 What is the origin and insertion of the *Semi-spinalis Dorsi*?
- 32 What is the origin and insertion of the *Semi-spinalis Colli*?
- 33 Name the Muscles of the sixth Layer.
- 34 What is the origin and insertion of the *Inter-spinales*?
- 35 What is the origin and insertion of the *Multifidus Spinæ*?
- 36 What is the origin and insertion of the *Intertransversales*?
- 37 What is the origin and insertion of the *Levatores Costarum*?
- 38 What is the origin and insertion of the first of these Muscles?

MUSCLES OF THE THORAX.

- 39 Name the proper Muscles of the Thorax.
- 40 How many Intercostales Externi are there?
- 41 Name the attachment of an external Intercostal Muscle.
- 42 How many Intercostales Interni are there?
- 43 Name the attachment of an internal Intercostal Muscle.
- 44 What is the situation of the Triangularis Sterni?
- 45 What is the origin and insertion of the Triangularis Sterni?
- 46 Name the Muscles whose Fibres are continuous with the lower Fibres of the Triangularis Sterni.

MUSCLES OF THE ABDOMEN.

- 7 Name the Muscles of the Abdomen.
- 8 What is the origin and insertion of the Obliquus Externus Abdominis?
- 9 What is the origin and insertion of the Obliquus Internus Abdominis?
- 10 What is the origin and insertion of the Cremaster?
- 11 What is the origin and insertion of the Transversalis Abdominis?
- 12 Which Muscle forms the greater portion of the Conjoined Tendon?
- 13 What is the origin and insertion of the Rectus Abdominis?
- 14 Name the irregular or tendinous zigzag lines which exist in this Muscle.
- 15 Where are the Lineæ Transversæ usually situated?
- 16 What is the Lineæ Alba, and where is it situated?
- 17 What is the Linea Semilunaris, and where is it situated?
- 18 How is the Sheath of the Rectus Abdominis formed?
- 19 What is the origin and insertion of the Pyramidalis?
- 20 Is this Muscle always present?
- 21 What is the origin and insertion of the Quadratus Lumborum?
- 22 What Nerves cross the surface of this Muscle?
- 23 What is the origin and insertion of the Psoas Parvus?
- 24 What is the name of the Muscle which divides the Thorax from the Abdomen?

- 64 How is it divided?
- 65 What is the origin and insertion of the Greater Muscle?
- 66 What is the Ligamentum Arcuatum Externum?
- 67 What is the Ligamentum Arcuatum Internum?
- 68 How do the Ligamenta Arcuata take origin?
- 69 What is the Tendo Diaphragmatis?
- 70 Which division of the Tendon is pierced by the Inferior Vena Cava?
- 71 What is the origin of the Lesser Muscle of the Diaphragm?
- 72 What is the origin of the right process?
- 73 What is the origin of the left process?
- 74 How do these processes terminate?
- 75 What is the name given to these two Muscular and Tendinous processes on the sides of the Abdominal Aorta?
- 76 What is transmitted through the Muscular Opening formed by these two Crura?
- 77 Where do the inner Fibres of the two Crura or Pillars of the Diaphragm decussate, and which is most anterior?
- 78 What other Opening exists in the Diaphragm?
- 79 How is this Opening formed?
- 80 What does this Opening transmit?

PERINEAL REGION.

- 81 How are the Muscles of the Perineum arranged?
- 82 Name the Muscles of the Male Perineum.
- 83 Name the Muscles of the Female Perineum.
- 84 What is the origin and insertion of the Erector Penis (Ischio-cavernosus)?
- 85 What is the origin and insertion of the Accelerator Urinæ (Bulbo-cavernosus)?
- 86 What is the origin and insertion of the Transversalis Perinæi (Ischio-perinæalis)?
- 87 What is the origin and insertion of the Compressor vel Constrictor Urethræ?
- 88 What is the origin and insertion of the other division of the Compressor Urethræ?

MUSCLES OF THE ANUS.

- 89 What is the origin and insertion of the Sphincter Ani Externus?

- 90 What is the origin and insertion of the Sphincter Ani Internus?
- 91 What is the origin and insertion of the Levator Ani?
- 92 What is the origin and insertion of the Coccygeus?
- 93 What is the insertion of the Levator Ani in the Female?
- 94 What is the insertion of the the Transversalis Perinæi in the Female?
- 95 What is the insertion of the Erector Clitoridis?
- 96 What is the origin and insertion of the Sphincter vel Constrictor Vaginæ?

SECTION XVII.—MUSCLES OF THE UPPER EXTREMITY.

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- 1 How are the Muscles of the Upper Extremity arranged?
- 2 How are the Muscles of the Shoulder divided?
- 3 Name the Muscles in the anterior and lateral Thoracic divisions.
- 4 What is the origin and insertion of the Pectoralis Major?
- 5 What is the origin and insertion of the Pectoralis Minor (Costo-coracoideus)?
- 6 Name the Muscles whose Tendons of insertion are united with that of Pectoralis Minor.
- 7 What is the origin and insertion of the Subclavius (Costo-Clavicularis)?
- 8 What is the origin and insertion of the Serratus Magnus (Costi-basi-scapularis)?
- 9 With what Muscle does the Serratus Magnus at its lower part indigitate?
- 10 Name the Muscles in the anterior and posterior Scapular and Acromial divisions.
- 11 What is the origin and insertion of the Sub-scapularis?
- 12 What is the origin and insertion of the Supra-spinatus?
- 13 What is the origin and insertion of the Infra-spinatus?
- 14 Name the Muscles whose Tendons of insertion are united to that of the Infra-spinatus.
- 15 What is origin and insertion of the Teres Major?
- 16 What is the origin and insertion of the Teres Minor?
- 17 What is the origin and insertion of the Deltoid (Sub-acromio-humeralis)?

- 18 Name the Muscle whose insertion corresponds with the origin of the Deltoid, along the Spine of the Scapula.
- 19 Name the Muscle whose Tendon of insertion is united to the Tendon of insertion of the Deltoid.
- 20 How are the Muscles of the Arm divided?
- 21 Name the Muscles of the anterior Humeral Region.
- 22 What is the origin and insertion of the Biceps?
- 23 What is the origin and insertion of the Coraco-brachialis?
- 24 What is the origin and insertion of the Brachialis-anticus?
- 25 Name the Muscle of the posterior Humeral Region.
- 26 What is the origin and insertion of the Triceps Muscle?
- 27 Name the Superficial and Deep Muscles of the anterior Brachial Region.
- 28 What is the origin and insertion of the Pronator Radii Teres?
- 29 What Nerve passes between the two Heads of the Pronator Radii Teres?
- 30 What is the origin and insertion of Flexor Carpi Radialis?
- 31 What is the origin and insertion of the Palmaris-longus?
- 32 What is the origin and insertion of the Flexor Carpi Ulnaris?
- 33 What Nerve and Artery pass between the origins of this Muscle to the inner Condyle and Olecranon process?
- 34 What is the origin and insertion of the Flexor Digitorum Sublimis?
- 35 What Nerve and Artery pass between the origins of this Muscle?
- 36 What is the origin and insertion of Flexor Digitorum Profundus vel Perforans?
- 37 What is the origin and insertion of the Flexor Longus Pollicis?
- 38 What is the origin and insertion of the Pronator Quadratus?
- 39 Name the Superficial and Deep Muscles of the Posterior Brachial Region.
- 40 What is the origin and insertion of the Supinator Radii Longus?

- 41 What is the origin and insertion of the Extensor Carpi Radialis Longior?
- 42 What is the origin and insertion of the Extensor Carpi Radialis Brevior?
- 43 What is the origin and insertion of the Extensor Communis Digitorum?
- 44 What is the origin and insertion of the Extensor Minimi Digiti?
- 45 What was this Muscle originally called, and why?
- 46 What is the origin and insertion of the Extensor Carpi Ulnaris?
- 47 What is the origin and insertion of the Anconeus?

DEEP LAYER.

- 48 What is the origin and insertion of the Supinator Brevis?
- 49 What is the origin and insertion of the Extensor Ossis Metacarpi Pollicis vel Abductor Longus Pollicis?
- 50 What is the origin and insertion of Extensor Primi Internodii Pollicis?
- 51 What is the origin and insertion of the Extensor Secundi Internodii Pollicis?
- 52 What is the origin and insertion of the Extensor Indicis vel Indicator?

MUSCLES OF THE HAND.

- 53 How are the Muscles of the hand divided?
- 54 Name the Muscles of the Thumb.
- 55 What is the origin and insertion of the Abductor Pollicis?
- 56 What is the origin and insertion of the Opponens Pollicis?
- 57 What is the origin and insertion of the Flexor Brevis Pollicis?
- 58 What is the origin and insertion of the Adductor Pollicis? Name the Muscles of the Little Finger.
- 59 What is the origin and insertion of the Palmaris Brevis?
- 60 What is the origin and insertion of the Abductor Minimi Digiti?
- 61 What is the origin and insertion of the Flexor Brevis Minimi Digiti?
- 62 What is the origin and insertion of the Flexor Ossis Metacarpi vel Opponens vel Adductor Minimi Digiti?
- 63 Name the Muscles of the Palm of the Hand.

- 64 How many Lumbricales Manûs Muscles are there?
- 65 How many Palmar Interossei are there?
- 66 What are the origins and insertions of the Palmar Interossei?
- 67 How many Dorsal Interossei are there?
- 68 What are the origins and insertions of the Dorsal Interossei?
- 69 What is the special name given to the first Dorsal Interosseous?
- 70 What is its origin and insertion?
- 71 What Vessel passes between the two heads of the preceding Muscle into the Palm of the Hand?

96. SECTION XVIII.—MUSCLES OF THE LOWER EXTREMITY.

- 1 How are the Muscles of the Lower Extremity arranged?
- 2 Name the Muscles of the Hip or Gluteal Region.
- 3 What is the origin and insertion of the Gluteus Maximus (Ilio-sacro-femoralis)?
- 4 What is the origin and insertion of the Gluteus Medius (Ilio-trochanterus Major)?
- 5 What is situated between its inserted Tendon and the Trochanter?
- 6 What is the origin and insertion of Gluteus Minimus?
- 7 What is the origin and insertion of the Pyriformis?
- 8 What does this Muscle separate as it passes through the Sacro-ischiatic Notch?
- 9 What is the origin and insertion of the Gemellus Superior?
- 10 What is the origin and insertion of the Gemellus Inferior?
- 11 What is the origin and insertion of the Obturator Internus?
- 12 What is the origin and insertion of the Obturator Externus?
- 13 What is the origin and insertion of the Quadratus Femoris?
- 14 How are the Muscles of the Thigh arranged?
- 15 Name the Muscles of the anterior Femoral Region.
- 16 Which is the longest Muscle in the body extending from the Pelvis to the Leg?
- 17 What is the origin and insertion of the Sartorius?
- 18 What is the origin and insertion of the Tensor Vaginæ Femoris?

- 19 What is the origin and insertion of the Rectus?
- 20 What is the origin and insertion of the Vastus Externus?
- 21 What are the origin and insertions of the Vastus Externus et Crureus?
- 22 Name the Muscles of the Internal Femoral Region.
- 23 What is the origin and insertion of Iliacus Internus?
- 24 What is the origin and insertion of the Psoas Magnus?
- 25 What is the origin and insertion of the Pectineus?
- 26 What is the origin and insertion of the Adductor Longus?
- 27 What is the origin and insertion of the Adductor Brevis?
- 28 Name the Muscle which divides the anterior from the posterior Muscles of the Thigh.
- 29 What is the origin and insertion of the Adductor Magnus?
- 30 What does the tendinous opening in the Adductor Magnus transmit?
- 31 What is the origin and insertion of the Gracilis?
- 32 Name the Muscles of the posterior Femoral Region.
- 33 What is the origin and insertion of the Biceps? (Biceps Flexor Cruris.)
- 34 Name the Muscle whose Tendon forms the outer Hamstring.
- 35 Name the Muscles whose Tendons form the inner Hamstring.
- 36 What is the origin and insertion of the Semitendinosus?
- 37 What separates the tendons of the Semitendinosus and Gracilis from that of the Sartorius?
- 38 What is the origin and insertion of the Semimembranosus?
- 39 How are the Muscles of the Leg arranged?
- 40 Name the Muscles of the anterior Tibial Region.
- 41 What is the origin and insertion of the Tibialis Anticus?
- 42 What is the origin and insertion of the Extensor Proprius Pollicis?
- 43 What is the origin and insertion of the Extensor Longus Digitorum?
- 44 What is the origin and insertion of the Peroneus Tertius?
- 45 Name the Muscles of the posterior Tibial Region.
- 46 What is the origin and insertion of the Gastrocnemius?
- 47 What is situated between its Tendon and the upper part of the Tuberosity of the Os Calcis?

- 48 What tends to form the lateral boundaries of the Popliteal space?
- 49 What exists in the Tendon of the outer head of the Gastrocnemius Muscle?
- 50 What is the origin and insertion of the Soleus?
- 51 Name the strongest Tendon in the body.
- 52 Where does the Tendo Achillis commence and terminate?
- 53 Which Muscle has the longest Tendon in the body?
- 54 What is the situation, origin and insertion of the Plantaris?
- 55 What is the origin and insertion of the Popliteus?
- 56 What is the origin and insertion of the Flexor Longus Pollicis Pedis?
- 57 What is the origin and insertion of the Flexor Longus Digitorum Pedis (Flexor-perforans)?
- 58 What is the origin and insertion of the Tibialis Posticus?
- 59 What separates the last-named Muscle from those of the anterior Tibial Region?
- 60 Name the Muscles of the Fibular Region, or those on the outer part of the Leg.
- 61 What is the origin and insertion of the Peroneus Brevis?
- 62 How are the Muscles of the Foot arranged?
- 63 Name the Muscles of the Dorsal Region.
- 64 What is the origin and insertion of the Extensor Brevis Digitorum?
- 65 What are origins and insertions of the four Dorsal Interossei Muscles?
- 66 How is the Plantar Region divided?
- 67 Name the first Layer of Plantar Muscles.
- 68 What is the origin and insertion of the Abductor Pollicis?
- 69 What is the origin and insertion of the Flexor Brevis Digitorum?
- 70 What is the origin and insertion of the Abductor Minimi Digiti?
- 71 Name the second Layer of Plantar Muscles.
- 72 How many Lumbricales Pedis Muscles are there?
- 73 What are the origins and insertions of the Lumbricales?
- 74 What is the origin and insertion of the Musculus Accessorius?

- 5 What separates the two Heads of origin of the preceding Muscle?
- 6 Name the third Layer of Plantar Muscles.
- 7 What is the origin and insertion of the Flexor Brevis Pollicis?
- 8 What are developed in the tendinous insertions of the two Heads of this Muscle?
- 9 What is the origin and insertion of the Adductor Pollicis?
- 10 What is the origin and insertion of the Transversalis Pedis?
- 11 What is the origin and insertion of the Flexor brevis Minimi Digiti?
- 12 Name the fourth layer of Plantar Muscles.
- 13 What are the origins and insertions of the three Plantares Interossei?
- 14 What are the origins and insertions of the four Dorsales Interossei?

SECTION XIX.—FASCIÆ.

- 1 What are the Fasciæ?
- 2 How are Fasciæ arranged?
- 3 Give examples of first class or Cellular-fasciæ.
- 4 What is Cellulo-fibrous Fasciæ?
- 5 Give examples of this structure.
- 6 What is Tendino-fibrous Fascia?
- 7 Give examples of this structure.
- 8 How are the Fasciæ of the body arranged?
- 9 Name some of the Fasciæ of the Head and Neck.
- 10 What is the Temporal Fascia?
- 11 Of how many Layers does the Superficial Fascia consist?
- 12 What is the deep Cervical Fascia?
- 13 What is the Thoracic Fascia?
- 14 Give examples of the Abdominal and Pelvic Fasciæ?
- 15 What is the Fascia Transversalis?
- 16 What is the name of the opening situated in this Fascia?
- 17 Where is this Ring situated?
- 18 Name the Coverings of an Oblique Inguinal Hernia.
- 19 Name the Coverings of a Direct Inguinal Hernia.
- 20 What is the Fascia of the Iliacus and Psoas Muscles?

- 21 What is the origin of the Fascia of the Pelvis?
- 22 What does the Pelvic Layer form?
- 23 What is the Obturator Layer?

PERINEAL FASCIÆ.

- 24 What is the Superficial Perineal Fascia?
- 25 What is the Deep Perineal Fascia?
- 26 What is situated between the two Layers of Deep Perineal Fascia?

FASCIÆ OF THE UPPER EXTREMITY.

- 27 What is situated between the Layers of the Superficial Fasciæ?
- 28 What is the appearance of the Deep Fascia?
- 29 To what is it attached?
- 30 What does the Palmar Fascia consist of?

FASCIÆ OF THE LOWER EXTREMITY.

- 31 What is situated between the Layers of the Superficial Fascia?
- 32 What is the name given to the Deep Fascia of the Thigh?
- 33 What are its attachments?
- 34 What Muscles does this Fascia give attachment to?
- 35 What is the name of the oval Aperture in the Fascia Lata, near the upper and inner extremity of the middle line of the Thigh?
- 36 What is the name given to the Fascia on the outer side of this Opening?
- 37 What is the name given to the Fascia on the inner side of this Opening?
- 38 What is the name given to the Apertures in the Fibrous Layer over the Sphenous Opening?
- 39 Name the Coverings of a Femoral Hernia.
- 40 What does the Fascia of the Leg in the anterior Tibial Region give attachment to?
- 41 What does the Fascia form at the inferior extremities of the Tibia and Fibula?
- 42 What does the Fascia form at the extremity of the outer Malleolus to the side of the Os Calcis?
- 43 What does the Fascia attached to the inner Malleolus and side of the inner Tuberosity of the Os Calcis form?

- 4 Whence is the Fascia on the Dorsum of the Foot derived?
- 5 What does the Fascia of the posterior part of the Leg consist of?
- 6 How many portions compose the Plantar Fascia?
- 7 Which portion is the thickest?
- 8 What is its attachment?
- 9 Where are the lateral portions attached?

SECTION XX.—SPLANCHNOLOGY.

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- 1 What is Splanchnology? (*Splagchna*, viscus; and *logos*, discourse.)
- 2 Where are the Viscera situated?
- 3 What are the names of these Cavities?

THORACIC VISCERA.

- 4 What is the form and situation of the Thorax?
- 5 How is the Thorax formed?
- 6 Name the Viscera of the Thorax.

HEART.

- 7 What is the Heart?
- 8 What is the situation of the Heart?
- 9 Into what parts is the Heart divided?
- 0 What communication exists between these compartments?
- 1 What is the use of the Auricles?
- 2 What is the use of the Ventricles?

RIGHT AURICLE.

- 3 Which Auricle is the largest?
- 4 How is the Right Auricle divided?
- 5 How many Openings are there in the Sinus?
- 6 Where does the superior Cava open?
- 7 Where does the inferior Cava open?
- 8 Where does the Coronary Vein open?
- 9 What is the use of the Coronary Vein?
- 0 What are the Foramina Thebesii?
- 1 What is the Auriculo-ventricular Opening?
- 2 Name the Valves of the Right Auricle?
- 3 What is the Valve of Eustachius?
- 4 At what period of life is this Valve most distinct?
- 5 What is its use at this period?

- 26 What is the Coronary Valve?
- 27 What is the use of this Valve?
- 28 What is the Annulus Ovalis vel Isthmus Vieussensii?
- 29 What is the Fossa Ovalis?
- 30 Where is the Fossa Ovalis situated in the Left Auricle?
- 31 What is the Tuberculum Loweri?
- 32 What are the Musculi Pectinati?

RIGHT VENTRICLE.

- 33 What is the form of the Right Ventricle?
- 34 What is the form of the anterior and inferior sides?
- 35 Which Ventricle is the largest?
- 36 Name the Opening which is situated in its base.
- 37 What Bone is this Opening opposite to?
- 38 What are the Tricuspid Valves?
- 39 What are the Chordæ Tendinæ?
- 40 What are the Columnæ Carnæ?
- 41 How are these Fibres arranged?
- 42 Name the other Opening which is situated in the base of the Right Ventricle.
- 43 Where is this Opening situated?
- 44 What is the name and form of the Cavity which communicates with the Pulmonary Artery?
- 45 How is the Mouth of the Pulmonary Artery protected?
- 46 How many Semi-lunar Valves are there, and how are they formed?
- 47 How are these Valves arranged?
- 48 What does the centre of each concave margin present?
- 49 What is the use of these Valves?

LEFT AURICLE.

- 50 What is the situation of the Left Auricle?
- 51 Name the Apertures in this Auricle.
- 52 Where do the Pulmonary Veins open?
- 53 Are these Veins provided with Valves?
- 54 Where are the Musculi Pectinati situated?
- 55 Does its structure resemble that of the Right Auricle?

LEFT VENTRICLE.

- 56 What is the situation of the Left Ventricle?
- 57 What is the thickness of its Walls?

- 8 Name the Apertures in this Cavity.
- 9 Which is the largest Auriculo-ventricular Opening?
- 10 Where is the Left Auriculo-ventricular Opening situated?
- 11 How is the communication between the Left Auricle and Left Ventricle protected or guarded?
- 12 What Artery arises from the Left Ventricle?
- 13 What do you observe around the commencement of the Aortic Opening?
- 14 What is the use of these Valves?
- 15 Are the other Structures of this Cavity similar to those of the Right?
- 16 What is the Heart composed of?
- 17 What does the Muscular substance form?
- 18 How are they arranged in the Walls of the Auricles?
- 19 How are they disposed in the Walls of the Ventricles?
- 20 How is the Fibrous Structure arranged?
- 21 What is the name of the Membrane which lines the interior of the Cavities of the Heart, and forms the Duplicatures or Valves already described?

ARTERIES, VEINS, AND NERVES OF THE HEART.

- 2 Name the Nutrient Vessels of the Heart.
- 3 How many Coronary Arteries are there, and give their origin?
- 4 What is the course and distribution of the Right Coronary Artery?
- 5 What is the course and distribution of the Left Coronary Artery?
- 6 How many sets of Coronary or Cardiac Veins are there?
- 7 Where does the Great Cardiac Vein commence and terminate?
- 8 Where do the posterior Cardiac Veins commence and terminate?
- 9 Where do the the anterior Cardiac Veins terminate?
- 10 What are the Venæ Thebesii?
- 11 Whence are the Nerves derived?
- 12 How is this Plexus formed?

PERICARDIUM.

- 13 What is the Pericardium?

What is the form and situation of the Pericardium ?

84 What is the Pericardium composed of?

85 What is the Fibrous or external Layer attached to?

86 What is the internal or Serous Layer?

87 In what does the internal surface differ from the external?

88 From whence are the Vessels of the Pericardium derived?

CIRCULATION OF THE BLOOD.

89 How is the Circulation of the Blood effected?

90 What is the Diastole of the Heart?

91 What is the Systole of the Heart?

92 Describe the Circulation of the Blood.

93 What prevents the Regurgitation of the Blood into the Right Ventricle?

94 What prevents the Regurgitation of the Blood into the Left Ventricle?

95 How are the Mouths of the Aorta and Pulmonary Artery protected?

TRACHEA.

96 What is the situation of the Trachea?

97 What is the length and form of the Trachea?

98 What is the Trachea composed of?

99 How is the Trachea lined?

100 What are the Bronchi?

LUNGS.

101 What is the situation and form of the Lungs?

102 In what part of the Lungs is the Notch situated which is caused by the Apex of the Heart?

103 How is the Lung divided?

104 What is the appearance of the Base?

105 What is the appearance of the Apex?

106 What is the appearance of the anterior Border?

107 What is the appearance of the posterior Border?

108 What is the appearance of the external or Thoracic Surface?

109 What is the appearance of the internal Surface?

110 How is each Lung divided?

111 In what does the Right Lung differ from the Left?

112 Which Lung is the longest?

- 113 How are the Lungs retained in their position?
 - 114 What is the situation of the Root of the Lung?
 - 115 What is the structure of the Lung?
 - 116 Do these minute Cells communicate with each other?
 - 117 What is the name of the Serous Investing Membranes of the Lungs?
 - 118 How many are there?
 - 119 What is the name given to that portion of the Serous Membrane which lines the Parietes of the Chest?
 - 120 What is the name given to that portion of the Serous Membrane which invests the Lung as far as its Root?
 - 121 What name is given to this Membrane where the two Lungs approximate each other in the middle line?
 - 122 What divides the anterior from the posterior Mediastinum?
 - 123 Does this division into anterior and posterior constitute two Mediastina?
 - 124 What are the Bronchi?
 - 125 What are they composed of?
 - 126 Which is the longest Bronchus?
 - 127 What is its direction?
 - 128 What is the length and direction of the Right Bronchus?
 - 129 How are the large Vessels arranged at the Root of the Lung on either side with regard to each other?
 - 130 How are these Vessels arranged from above downwards, on the right side?
 - 131 How are these Vessels arranged from above downwards on the left side?
 - 132 How do you account for this difference in the two sides?
 - 133 How is the substance of the Lung formed?
 - 134 How are the larger-masses or Lobes formed?
 - 135 How are the different constituents of the Lung connected?
 - 136 What is the form and size of an Air-cell?
- ARTERIES, VEINS, AND NERVES OF THE LUNGS.
- 137 Name the Functional and Nutritious Vessels of the Lung.
 - 138 How many Pulmonary Veins are there to each Lung?
 - 139 Where do they open?

- 140 Which Pulmonary Veins are the longest?
- 141 What is the origin of the Pulmonary Artery?
- 142 How many Branches does the right division of the Pulmonary Artery give off?
- 143 How many does the left division give off?
- 144 What is the origin of the Bronchial Arteries?
- 145 Where do the Bronchial Veins open?
- 146 Whence are the Nerves derived?
- 147 Where are the Bronchial Glands situated?
- 148 To what kind of Glands do the Bronchial belong?

RESPIRATION.

- 149 What is Respiration?
- 150 How is Inspiration performed?
- 151 What Muscle contributes the principal share to the dilatation of the Chest during Inspiration?
- 152 How, during Inspiration, is the lateral dilatation of the Chest performed?
- 153 How is Respiration performed?
- 154 What Muscles diminish the capacity of the Chest during expiration?
- 155 Name the Muscles which contribute to Expiration.

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SECTION XXI.—ŒSOPHAGUS.

- 1 Where does the Œsophagus or Gullet commence and terminate?
- 2 What is its length, and where is its largest diameter?
- 3 What is its structure?
- 4 How many Layers does the Muscular Coat consist of?
- 2 How are the Fibres of the external Coat disposed?
- 6 How are the Fibres of the internal Coat disposed?
- 7 Where is the Fibrous Layer situated?
- 8 What is the colour of the Mucous Coat?
- 9 What is its appearance when the Gullet is contracted?
- 10 What is its inner surface coated with?
- 11 What is the name of the Glands which exist in this Canal?

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SECTION XXII.—THYMUS GLAND.

- 1 What is the form and situation of the Thymus Gland?
- 2 What is its structure?

- 3 Does this Gland after birth exist throughout life?
- 4 At what period of Fœtal life is it first observed?
- 5 What is its weight at birth?
- 6 When does it become perfectly atrophied?
- 7 Is it a single Organ?
- 8 What lines its central Cavity called the "Reservoir of the Thymus?"
- 9 What is the name of the Cavity in each Lobule?
- 10 What do a number of these Cells open into at its base?
- 11 What do these Cavities contain?
- 12 Whence are the Arteries of the Thymus Gland derived?
- 13 Where do the Veins open?
- 14 Whence are the Nerves derived?
- 15 Is the Thymus Gland possessed of Absorbents?

SECTION XXIII.—MAMMÆ.

- 1 What are the Mammæ?
- 2 Where are they situated?
- 3 Of what parts do they consist?
- 4 What is the situation of the Papilla?
- 5 What is the name of the circular Disk which surrounds the Nipple?
- 6 What do you observe on the surface of the Areola and Nipple?
- 7 What is the use of these Lubricating Glands?
- 8 What is the structure of the Mammary Gland?
- 9 What do these minute Cæcal Vesicles form?
- 10 How many Lobes unite to form one Lactiferous Tube?
- 11 What is the structure of one of these Excretory Ducts?
- 12 Is there any thing peculiar in the Ducts of the Nipple?
- 13 Whence are the Arteries of the Mammæ derived?
- 14 Where do the Veins of the Mammæ return their blood?
- 15 Where do the Lymphatics of the Mammæ open?
- 16 Whence are the Nerves of the Mammæ derived?

SECTION XXIV.—ABDOMINAL VISCERA.

- 1 What is the form and situation of the Abdomen?
- 2 How is the Cavity of the Abdomen formed?
- 3 How is the Abdomen divided?
- 4 What are the contents of the Abdomen?

- 5 What are the contents of the Pelvic portion?
- 6 Into how many Regions is the Abdomen technically divided?
- 7 Do these three Regions undergo any further division?
- 8 Name the divisions of the superior Primary Region.
- 9 Name the divisions of the middle Primary Region.
- 10 Name the divisions of the inferior Primary Region.
- 11 What part of the Abdomen marks off the Epigastric and Hypochondriac Regions?
- 12 What Viscera are situated in the central division of this upper segment?
- 13 What Viscera are situated in the Left Hypochondriac Region?
- 14 What Viscera are situated in the Right Hypochondriac Region?
- 15 How are the Umbilical and Lumbar Regions formed?
- 16 What Viscera are situated in the Central or Umbilical Region?
- 17 What Viscera are situated in the Right Lumbar Region?
- 18 What Viscera are situated in the Left Lumbar Region?
- 19 What is the situation of the Hypogastric vel Pubic and Iliac Regions?
- 20 What Viscera are situated in the inferior or Hypogastric Region?
- 21 What Viscera are situated in the right Iliac vel Inguinal Region?
- 22 What Viscera are situated in the left Iliac vel Inguinal Region?

PERITONEUM.

- 23 Name the most extensive serous Membrane in the body.
- 24 What is the situation of the Peritoneum?
- 25 What is the structure of the Peritoneum?
- 26 What is the appearance of the external or Cellular Layer of the Peritoneum?
- 27 What is the appearance of the internal Layer of the Peritoneum?
- 28 How is the Peritoneum lubricated?
- 29 Name the Folds of the Peritoneum on the Stomach.
- 30 Which is the largest Fold of the Peritoneum?

- 31 Name the Folds of Peritoneum on the large Intestine.
- 32 Name the Fold of Peritoneum on the small Intestine.
- 33 Name the Ligaments formed by the Peritoneum.
- 34 What is situated between the two Layers of the lesser Omentum?

ABDOMEN.

- 35 What are the contents of the Abdomen?
- 36 What is the Stomach?
- 37 What is the form and situation of the Stomach?
- 38 How is the Stomach divided?
- 39 Which is the largest extremity of the Stomach?
- 40 What does this extremity receive?
- 41 What is its position?
- 42 Where does the right or Pyloric extremity open?
- 43 What is the name and form of the lower Border of the Stomach?
- 44 What does this lower Border give attachment to?
- 45 What is the name and form of the upper Border of the Stomach?
- 46 What does this upper Border give attachment to?
- 47 What is the direction and relation of the anterior surface of the Stomach?
- 48 What is the direction and relation of the posterior surface of the Stomach?
- 49 How many Openings has the Stomach?
- 50 What is the relative situation of these two Orifices?
- 51 What is the structure of the Stomach?
- 52 What is the situation of the Serous Coat?
- 53 What is situated between its folds?
- 54 What is the situation of the Muscular Coat?
- 55 How many Layers does the Muscular Coat consist of.
- 56 Where are the longitudinal Fibres derived from?
- 57 Where are the circular Fibres observed?
- 58 What do the circular Fibres form at the Pyloric extremity?
- 59 Where are the oblique Fibres observed?
- 60 What does the Fibrous Coat consist of?
- 61 What is the structure of the Mucous or Villous Coat of the Stomach?



- 62 What is the form and situation of the Gastric Follicles?
- 63 What is the appearance of the Stomach in its contracted state?
- 64 What is their direction?
- 65 Whence are the Nerves of the Stomach derived?
- 66 Whence are the Arteries of the Stomach derived?
- 67 Into what Vessel is the Residual or Venous Blood returned?

INTESTINES.

- 68 What is the length and extent of the Intestinal Canal?
- 69 How are the Intestines divided?
- 70 Name the subdivisions of the small Intestines.
- 71 What is the situation of the Duodenum?
- 72 What is the length of the Duodenum?
- 73 What is its direction?
- 74 Name the Ducts which open about the middle of the inner side of the perpendicular portion of the Duodenum.
- 75 What is the third or Transverse portion connected with?
- 76 Where does the Jejunum commence and terminate?
- 77 What is the length of the Jejunum and Ilium?
- 78 What is the length of the Jejunum?
- 79 Where does the Ilium commence and terminate?
- 80 Name the Fold of the Peritoneum which connects the Jejunum and Ilium with the posterior Wall of the Abdomen.
- 81 What is the length of the Ilium?
- 82 Which Fold or Duplication of Peritoneum is the strongest?
- 83 What is situated between its two Layers?
- 84 What is the structure of the small Intestine?
- 85 Does the Serous Layer completely surround the small Intestine?
- 86 How many Layers does the Muscular Coat consist of?
- 87 What Glands are situated in the upper part of the Fibrous or Sub-mucous Coat of the Duodenum?
- 88 What is the appearance of the Mucous Coat?
- 89 What circular Folds do you observe on this Coat?

- 90 What is the situation, form and size of the Villi?
- 91 What are the Villi?
- 92 How many kinds of Glands exist in the small Intestine?
- 93 Where do Peyer's Glands chiefly occur?
- 94 What is their form, size and number?
- 95 What is their direction in the Intestine?
- 96 What are the Follicles of Lieberkühn?
- 97 What is their length and breadth?
- 98 Where do the Solitary Glands exist?
- 99 What is their form and size?
- 100 Name the subdivisions of the large Intestine.
- 101 What is the length of the large Intestine?
- 102 What is the Cæcum?
- 103 What is the situation and length of the Cæcum?
- 104 What is attached to its extremity?
- 105 What is the length and diameter of this process?
- 106 Where is it attached to the Cæcum?
- 107 What is the Colon?
- 108 What is its course?
- 109 What is the name of the double convoluted termination of the Colon?
- 110 How is the Sigmoid Flexure retained in its place?
- 111 What is the Ilio-cæcal Valve?
- 112 What is its structure?
- 113 Which is the largest Fold, and how is it attached?
- 114 What divides the small Intestine from the Stomach, Liver, and Spleen?
- 115 What are the Appendices Epiploicæ?
- 116 What is the form of the Folds of the Mucous Membrane in the Colon?
- 117 Whence are the Vessels of the Colon derived?
- 118 Whence are the Nerves of the Colon derived?

RECTUM.

- 119 What is the length and situation of the Rectum?
- 120 How is the Rectum divided?
- 121 What is the extent of the first part?
- 122 How is this part connected with the Sacrum?
- 123 What Muscle and Nerves does this portion rest on?

- 124 What is in relation with its left side?
- 125 What is the length of the first or upper part?
- 126 What is the length and extent of the middle portion?
- 127 What is in relation with this portion?
- 128 What is the length and extent of the third or lower portion?
- 129 What is situated above the Aperture of the Rectum?
- 130 What do the circular Fibres at the lower portion of the Rectum form?
- 131 What Muscles surround the Aperture of this portion?
- 132 What is the structure of the large Intestine?
- 133 What parts of the Colon does the Serous Coat cover?
- 134 What parts of the transverse portion of the Colon is covered by the Serous Coat?
- 135 How do the longitudinal Fibres of the Muscular Coat of the Colon differ from those of the small Intestine?
- 136 In what does the Mucous Surface of the large Intestine differ from that of the small Intestine?
- 137 Whence are the Vessels of the Rectum derived?
- 138 Whence are the Nerves of the Rectum derived?

MESENTERY.

- 139 What is the Mesentery?
- 140 What do you observe between its two Layers?

LIVER.

- 141 Name the largest Visceral Gland in the body.
- 142 What is its situation?
- 143 What is its form, weight and diameter?
- 144 How is it retained in its place?
- 145 Where are these Duplicatures of the Peritoneum situated?
- 146 Name these Duplicatures.
- 147 What is the situation of the Falciform Ligament?
- 148 What is situated between its two Layers?
- 149 What separates the right Lobe of the Liver from the left?
- 150 What are the lateral or triangular Ligaments on either side connected to?
- 151 Where is the Coronary Ligament situated?
- 152 Where is the left lateral Ligament attached to the Liver?

- 153 Where is the right lateral Ligament attached to the Liver?
- 154 What is the colour and consistence of the Liver?
- 155 How many surfaces does the Liver present?
- 156 What is the form of its upper surface?
- 157 What is the form of its under surface?
- 158 What does the under surface present?
- 159 Name the Fissures of the Liver.
- 160 Where is the transverse Fissure situated?
- 161 What does this Fissure lodge?
- 162 What is the situation of the longitudinal Fissure?
- 163 What is the Ductus Venosus?
- 164 What is the situation of the Fissure for the Vena Cava?
- 165 Name the Lobes on the under surface of the Liver.
- 166 Which Lobe forms the greatest part of the Liver?
- 167 How is it separated from the left Lobe on this surface?
- 168 How is it separated from the left Lobe on its convex surface?
- 169 What are the last three Lobes on the under surface of the Liver?
- 170 What is attached to the under surface of the right Lobe?
- 171 What is the form of the left Lobe on its upper surface?
- 172 What is the form of the left Lobe on its under surface?
- 173 Where is the Lobulus Quadratus situated?
- 174 How is this Lobe bounded?
- 175 What is the situation of the Lobus Spigelii?
- 176 How is this Lobe bounded?
- 177 What is the Lobus Caudatus?
- 178 Name the Fossæ of the Liver.
- 179 Where are these Fossæ situated?
- 180 Where is the Fossa or Notch for the Gall-bladder situated?
- 181 Where is the Fossa for the Colon situated?
- 182 Where is the depression for the right Kidney situated?
- 183 How many borders does the Liver present?
- 184 What does the anterior border present?
- 185 Which is the thickest end of the posterior border?
- 186 What is this part of the Liver in relation with?

- 187 Name the Vessels which enter into the structure of the Liver.
 - 188 Name the Vessels of the Liver which lie in the transverse Fissure from before backwards.
 - 189 How is the Hepatic Duct formed?
 - 190 Where do the Ducts issue from the Liver?
 - 191 Name the Branches of the Hepatic Duct.
 - 192 Which of these Branches are the largest?
 - 193 What Branches are given off from this Plexus?
 - 194 Where do the Interlobular Branches arise?
 - 195 Whence are the Lobular Branches derived?
 - 196 Where do the Vaginal, Interlobular and Lobular Branches ramify?
 - 197 What is the Capsule of Glisson?
 - 198 Where do the processes of this sheath pass?
 - 199 How many Coats has the Hepatic Duct?
 - 200 What is the structure of the Liver?
 - 201 Does the Serous Coat invest the Liver throughout its whole extent?
 - 202 Does the Fibrous Coat invest the Liver throughout its whole extent?
 - 203 Whence are the Nerves of the Liver derived?
 - 204 What is the origin and use of the Hepatic Artery?
 - 205 What is the termination and distribution of the Hepatic Artery?
 - 206 Name the Branches which are distributed to the Liver.
 - 207 How is the Vena Portæ formed?
 - 208 Where does it divide into two Branches for each Lobe of the Liver?
 - 209 What is the length of the Vena Portæ?
 - 210 What is the use of the Vena Portæ?
 - 211 How is the Blood, conveyed to the Liver by the Vena Portæ, returned into the current of the circulation?
 - 212 How do the Hepatic Veins commence?
 - 213 Where do the Hepatic Veins terminate?
- GALL-BLADDER.
- 214 What is the Gall-bladder?
 - 215 What is its situation?

- 216 What is its form?
- 217 How is it divided?
- 218 Which is its largest extremity?
- 219 What is the length and breadth of the Gall-bladder
- 220 What quantity of Bile will the organ hold?
- 221 What are the connections of the Gall-bladder?
- 222 How many Coats has the Gall-bladder?
- 223 Does the Serous Coat form a complete covering?
- 224 Does the second or Fibro-muscular Coat form a complete covering?
- 225 What does the Mucous surface form?
- 226 What is the Ductus Communis Choledochus?
- 227 How is this Duct formed?
- 228 What is its length and where does it terminate?
- 229 What other Duct opens conjointly with the Ductus Communis Choledochus?
- 230 What is the length of the Cystic Duct?
- 231 What is the Valve of the Gall-bladder?
- 232 Whence is the Gall-bladder supplied with Blood?
- 233 Where do the Veins of the Gall-bladder return their Blood?
- 234 Whence are the Nerves of the Gall-bladder derived?

PANCREAS.

- 235 What is the Pancreas?
- 236 What is the situation of the Pancreas?
- 237 What is its length and weight?
- 238 What is the Pancreas in relation with?
- 239 How is the Pancreas divided?
- 240 Which division is the smallest?
- 241 What is the breadth and thickness of the body?
- 242 Which extremity is the largest?
- 243 What is the left or smaller extremity in contact with?
- 244 What is the lesser Pancreas?
- 245 What is the structure of the Pancreas?
- 246 Where does its Excretory or Pancreatic Duct commence?
- 247 Where does its Excretory or Pancreatic Duct terminate?
- 248 Do instances sometimes occur of two Pancreatic Ducts existing in one person?

- 249 What is the structure of the Pancreatic Duct?
- 250 How is the latter Coat lined?
- 251 Whence are the Arteries of the Pancreas derived?
- 252 Where do the Veins of the Pancreas return their Blood?
- 253 Whence are the Nerves derived?

SPLEEN.

- 254 What is the Spleen?
- 255 What is the situation of the Spleen?
- 256 What is its length, breadth, thickness, and weight?
- 257 How is the Spleen divided?
- 258 What is the form of the external surface, and with what is it in relation to?
- 259 What is the form of the internal surface, and with what is it in relation to?
- 260 How is it connected to the Stomach and Diaphragm?
- 261 In what does the anterior border differ from the posterior?
- 262 Which is the most pointed of the two extremities?
- 263 Which is the largest extremity?
- 264 What is the name given to the small Masses which are often found appended to the Spleen near its Fissure?
- 265 What is the size and number of these Masses?
- 266 How many Coats has the Spleen?
- 267 Does the Serous Coat completely invest the Spleen?
- 268 Does the Fibrous Coat completely invest the Spleen?
- 269 What is the structure of the Spleen?
- 270 Whence are the Arteries of the Spleen derived?
- 271 Where do the Veins of the Spleen return their Blood?
- 272 Whence are the Nerves derived?

KIDNEYS.

- 273 What are the Kidneys?
- 274 Where are the Kidneys situated?
- 275 What is the length, breadth, thickness, and weight of each kidney?
- 276 What is the form and colour of the Kidney?
- 277 How is the Kidney divided?
- 278 What is the form of the anterior surface?
- 279 What is the form of the posterior surface?

- 280 What is in relation with the anterior surface ?
- 281 What is in relation with the posterior surface ?
- 282 What is the form of the external border ?
- 283 What is the form of the internal border ?
- 284 Which is the smallest extremity of the Kidney ?
- 285 What is in relation with the superior extremity ?
- 286 What difference is there in the situation of the two Kidneys ?
- 287 What is in relation anteriorly with the right Kidney in addition to the structures named ?
- 288 What is in relation anteriorly with the left Kidney in addition to the structures named ?
- 289 What is situated in the Hilum of the Kidney ?
- 290 Where does the Hilum lead to ?
- 291 What is contained in this Sinus previous to their entrance into the substance of the Kidney ?
- 292 How are these Vessels situated in the Hilum ?
- 293 What is the structure of the Kidney ?
- 294 What is the appearance of a vertical section of the Kidney ?
- 295 What does the Cortical substance form ?
- 296 What is its colour and consistence ?
- 297 What is it composed of ?
- 298 What do you observe in a well injected portion of this substance ?
- 299 What is the Medullary or Tubular portion of the Kidney composed of ?
- 300 How do these conical bodies terminate ?
- 301 How is the Pelvis of the Kidney formed ?
- 302 What is the form of the Pelvis of the Kidney ?
- 303 How many Tubes does the Pelvis give off ?
- 304 What do these Tubes form ?
- 305 Where do the Infundibuli open ?
- 306 What does each Calyx surround or embrace ?
- 307 What do these Calices form ?
- 308 What are the Tubuli Uriniferi ?
- 309 What are the Corpuscles of Malpighi ?
- 310 How are they formed ?

- 311 How many Coats has the Kidney ?
- 312 Whence are the Arteries of the Kidneys derived ?
- 313 Where do the Veins of the Kidneys return their Blood ?
- 314 Whence are the Nerves of the Kidneys derived ?

URETERS.

- 315 What is the name of the Duct which leads from the Pelvis of the Kidney ?
- 316 What is its length and diameter ?
- 317 What is the course of the Ureter ?
- 318 What is in relation with the Ureter in its course ?
- 319 What is the structure of the Ureter ?
- 320 How are the Muscular Fibres disposed ?
- 321 In what state is the Mucous Coat during contraction of the Ureter ?
- 322 Where do the Ureters open into the Bladder ?
- 323 What distance are the two Openings from each other ?
- 324 How do the Ureters enter the Bladder through its Coats ?
- 325 How is the reflux of the Urinary Fluid prevented returning into the Ureters when the organ is distended ?

SUPRA-RENAL CAPSULES.

- 326 What are the Supra-renal Capsules ?
- 327 What is the form of a Supra-renal Capsule ?
- 328 What is the form of its upper surface ?
- 329 What is the form of its base ?
- 330 What is its size and weight in the adult ?
- 331 What is in relation with the right Supra-renal Capsule ?
- 332 What is in relation with the left Supra-renal Capsule ?
- 333 What Vein is situated on the inner side of the right Capsule ?
- 334 What Plexus is situated on the inner side of the right Capsule ?
- 335 What Artery is situated on the inner side of the left Capsule ?
- 336 What Plexus is situated on the inner side of the left Capsule ?
- 337 What is the structure of the Supra-renal Capsules ?
- 338 What is the colour and appearance of the external part ?
- 339 What is the colour and consistence of the Medullary part ?

- 340 What Vein is situated in its centre?
- 341 Whence are the Arteries of the Supra-renal Capsules derived?
- 342 Where does the Supra-renal Vein return its Blood?
- 343 Whence are the Nerves derived?
- 344 Are the Supra-renal Capsules larger in the Fœtus than in the adult?

SECTION XXV.—CAVITY OF THE PELVIS.

133.

- 1 Where is the Cavity of the Pelvis?
- 2 How is the Cavity of the Pelvis bounded?
- 3 What are the contents of the Pelvic portion of the Abdomen?

URINARY BLADDER.

- 4 What is the Urinary Bladder?
- 5 What is the situation of the Bladder?
- 6 What is the form of the Bladder?
- 7 How is the Bladder divided?
- 8 What part constitutes the body?
- 9 What is its anterior surface in relation with?
- 10 What is its posterior surface in relation with?
- 11 What is the Neck of the Bladder?
- 12 By what is the Neck surrounded?
- 13 What is attached to the anterior part of the summit or Apex of the Bladder?
- 14 What is the name of the central one, and how is it formed?
- 15 What is the name of the two lateral Ligamentous Cords, and how are they formed?
- 16 What is the position of the Apex with reference to the Pubes, when the Bladder is distended and vice-versa?
- 17 What is the situation of the base of the Viscus?
- 18 What is attached to its under part?
- 19 What is the form of the space or interval between the Vesiculæ Seminales and Vasa Deferentia?
- 20 Is this triangular space in contact with the Peritoneum?
- 21 Then what separates this space from the Rectum?
- 22 How is this triangular space formed?

- 23 How is the Bladder retained in its place?
- 24 How many true Ligaments are there?
- 25 How are the anterior Ligaments formed?
- 26 How are the lateral Ligaments formed?
- 27 How many false Ligaments are there?
- 28 What is the extent of the two anterior false Ligaments?
- 29 What is the extent of the two posterior false Ligaments?
- 30 How many Coats has the Bladder?
- 31 Does the external or Serous Coat form a complete covering to the Bladder?
- 33 Which portion of the Bladder is not covered by it?
- 34 How many Layers has the Muscular Coat and how are they disposed?
- 35 What is the extent of the longitudinal Fibres?
- 36 What is the Detrusor Urinæ?
- 37 How are the internal set disposed?
- 38 Do these Fibres ever become hypertrophied from over-action or the result of inflammation?
- 39 Where is the Fibrous Coat situated?
- 40 What is its structure?
- 41 What is the Mucous Coat, and with what is it continuous?
- 42 What is the Mucous Coat attached to?
- 43 What is the appearance of the Mucous Coat when the Bladder is distended?
- 44 What is the appearance of the Mucous Coat when the Bladder is empty or contracted?
- 45 Which is the most sensitive part of the Bladder?
- 46 How is this triangular surface bounded?
- 47 What is the form of the external surface of the Bladder which corresponds to the Trigonum Vesicæ?
- 48 Is this external surface in contact with the Rectum?
- 49 How is this surface bounded?
- 50 What surgical operation corresponds to this triangular space?
- 51 How many openings are there into the Bladder?
- 52 Which is the most anterior?
- 53 How is the opening here partially closed?
- 54 What is the position of this small projection or thickening?

- 55 Whence are the Arteries of the Urinary Bladder derived?
- 56 Where does the Urinary Bladder return its Blood?
- 57 Whence are the Nerves derived?

URETHRA.

- 58 What is the Urethra?
- 59 What is its length and direction?
- 60 How many Coats has the Urethra?
- 61 With what is the Mucous Coat continuous?
- 62 In what condition is its Coat when the Canal is contracted?
- 63 Is this Coat lined throughout?
- 64 How are the Fibres of the Submucous Coat disposed?
- 65 Which part of the Canal is most developed with this structure?
- 66 In what part of the Canal is this structure less abundant?
- 67 Into how many parts is the Urethra divided?
- 68 What is the situation and length of the Prostatic portion?
- 69 What is the name of the central longitudinal ridge of the Mucous and Submucous Membrane situated on the lower surface of this division of the Canal?
- 70 What is the name of the depressed Fossa or Groove on either side the Veru Montanum or Crest of the Urethra?
- 71 Where are the two Ejaculatory Ducts situated?
- 72 What is the name of the Depression situated between the two Ejaculatory Ducts near the posterior extremity of the Prostatic portion?
- 73 What is the Sinus Pocularis?
- 74 What is its direction?
- 75 Which is the most dilated part of the Canal?
- 76 What is the form of this division of the Canal?
- 77 Which is the narrowest part of the Canal?
- 78 What is its length and situation?
- 79 Which division is the weakest, and what Ligament supports it?
- 80 Name the coverings of the Membranous portion.
- 81 What is the length of the spongy or last division of the Urethra?
- 82 What is the situation of the spongy division of the Urethra?

- 83 What Muscular Fibres encircle this division of the Canal at its commencement?
- 84 How is the spongy part of the Urethra divided?
- 85 Which is the narrow part of this division?
- 86 What do you observe in the floor of the posterior or Bulbous part of this division?
- 87 What do you observe in the floor of the anterior part of this division (in the Glans-penis)?
- 88 Where do the minute Foramina, being the orifices of the Mucous Follicles or Cryptæ, called Lacunæ, open?
- 89 Where is the Lacuna Magna situated?
- 90 What is the situation of Cowper's Glands?
- 91 What are they composed of?
- 92 Where do the Ducts of Cowper's Glands open?
- 93 What is their size and number?
- 94 Are these Glands always of the same size?

PROSTATE GLAND.

- 95 What is the Prostate Gland?
- 96 What is the situation of the Prostate Gland?
- 97 What is the size and form of the Gland?
- 98 What is its weight?
- 99 How is the Gland retained in its position?
- 100 What does the Gland consist of?
- 101 How are the lateral Lobes distinguished?
- 102 What is the middle Lobe or Isthmus of the Prostate?
- 103 What part of the Gland is often chronically enlarged or hypertrophied in old people, so as to impede the flow of the Urine, or even the introduction of a Catheter?
- 104 What part of the Prostate is excavated where the common Seminal or Ejaculatory Ducts pass through it to open into the Urethra?
- 105 Where does the Urethra make its entrance and exit through the Gland?
- 106 How do the Seminal Ducts perforate the Gland?
- 107 What is the appearance and internal structure of the Gland?
- 108 How much of the Glandular structure enters in the organ?

- 109 Are the Ducts of the Gland collected into one Excretory Tube?
- 110 How many Coats has the Prostate Gland?
- 111 How are the Muscular Fibres disposed?
- 112 Does the Prostate Gland possess any other covering besides the Fibrous and Muscular one?
- 113 Whence are the Arteries of the Prostate Gland derived?
- 114 What do the Veins form around the Gland?

VESICULÆ SEMINALES.

- 115 What are the Vesiculæ Seminales?
- 116 What is their length and form?
- 117 What is their upper surface in contact with?
- 118 What is their under surface in relation with?
- 119 What do they form at the under surface of the Bladder?
- 120 How is this space formed?
- 121 How is this space bounded posteriorly?
- 122 What part of the Bladder corresponds with this triangular space?
- 123 What is the structure of each Vesicula Seminalis?
- 124 How many Coats does each Vesicle consist of?
- 125 How does the posterior extremity terminate?
- 126 How does the anterior extremity terminate?
- 127 Where do the two Ducts (the Vesicula Seminalis and Vas Deferens) communicate?
- 128 What is the use of the Vesiculæ Seminales?

MALE ORGANS OF GENERATION.

- 129 What are the Male Organs of Generation composed of?
- 130 What is the Penis?
- 131 How is the Penis divided?
- 132 How is the body of the Penis formed?
- 133 How is the body surrounded?
- 134 Does this covering contain fat?
- 135 What is the Root of the Penis?
- 136 What is the form of the anterior extremity vel Glans Penis?
- 137 What is the name of the projecting border or collar at the base of the Glans Penis?
- 138 How is the deep Fossa of the Corona Glandis bounded?

- 139 What is the name of the triangular Fold of Integument at the under surface of the Glans Penis?
- 140 What is the name of the minute Sebaceous Glands or Follicles in the Fossa or Corona Glandis?
- 141 What is the internal surface of the Prepuce lined with?
- 142 Where is this Membrane reflected over the Glans Penis?
- 143 How is the Penis formed?
- 144 How is the Corpus Cavernosum attached posteriorly?
- 145 Where is the Bulb of the Corpus Cavernosum?
- 146 How does the Corpus Cavernosum end anteriorly?
- 147 How are the two Corpora Cavernosa divided superiorly and inferiorly along the middle line?
- 148 What is the structure of the Corpus Cavernosum?
- 149 How are the Fibres of this thick Tunic arranged?
- 150 What pierces the Septum Pecteniforme?
- 151 How is this Septum formed?
- 152 What is the Corpus Spongiosum?
- 153 Where does it commence and terminate?
- 154 What is the form of the middle portion of the Corpus Spongiosum?
- 155 What is the Bulb of the Corpus Spongiosum in relation with posteriorly?
- 156 What part of the Urethral Canal is lodged in the Corpus Spongiosum?
- 157 How are the Fibres of the Fibrous Coat of the Corpus Spongiosum arranged?
- 158 What do you observe in the Apex of the Corpus Spongiosum?
- 159 Where is the base of the Glans Penis?
- 160 Whence are the Arteries of the Penis derived?
- 161 Where do the Veins of the Penis return their Blood?
- 162 Whence are the Nerves of the Penis derived?

TESTES.

- 163 What are the Testes?
- 164 What is their form and use?
- 165 What is their position, and which is the lowest?
- 166 What is the size and weight of the Testis?
- 167 What is the structure of the Testis?

- 168 How are these Tubes or Lobules protected?
- 169 How many Coats has the Testis?
- 170 What is the Tunica Vaginalis?
- 171 How is the Tunica Vaginalis divided?
- 172 Does the Tunica Vaginalis Propria completely cover the Testis?
- 173 What is the Tunica Vaginalis Reflexa?
- 174 What does the internal surface of the Tunica Vaginalis present?
- 175 What is the Tunica Albuginea?
- 176 What are the characters of this Membrane?
- 177 Does this Tunic send processes into the interior of the Gland?
- 178 What is the use of this Septal or projecting Ridge (Mediastinum Testis of Sir A. Cooper)?
- 179 What is the relation of these Ducts and Blood Vessels to each other?
- 180 What is the Tunica Vasculosa?
- 181 Does this Layer send processes into the interior of the Gland?
- 182 How is this Layer formed?
- 183 What is the appearance of the Glandular structure of the organ?
- 184 What is an injected specimen of this substance found to consist of?
- 185 How many Tubuli are contained in a Lobule?
- 186 What is the number and length of these Seminal Tubes?
- 187 How does each Tube commence?
- 188 What is their direction and number as they enter the Fibres of the Mediastinum?
- 189 Which part of the Mediastinum do they occupy?
- 190 What occupy the posterior part of the Mediastinum?
- 191 What is the name of the aggregate of these Ducts where they communicate in the substance of the Mediastinum?
- 192 What is the name of these Tubes at the upper part of Mediastinum as they leave the Gland?
- 193 What is the number of the Vasa Efferentia?

- 194 What do the Vasa Efferentia form?
- 195 What is the Epididymis?
- 196 What is the Globus Major attached to?
- 197 What is the Globus Minor attached to?
- 198 What is the Vas Deferens?
- 199 What is its course?
- 200 What other Duct or narrow Cæcal appendage is frequently connected with the Epididymis where it unites to form the Vas Deferens?
- 201 What is the length of this small Duct when it is unravelled?
- 202 What is the length of the Vas Deferens?
- 203 What is the structure of the Vas Deferens?
- 204 How are the Layers of this Coat arranged?
- 205 How is the Mucous Coat marked?
- 206 Is the Canal of the Epididymis or that of the Vas Deferens the largest?
- 207 What is the structure of the Vas Aberrans?
- 208 Whence are the Arteries of the Testes derived?
- 209 Where do the Veins of the Testes return their Blood?
- 210 Where does the right Spermatic Vein return its Blood?
- 211 Where does the left Spermatic Vein return its Blood?
- 212 Whence are the Nerves of Testes derived?

SCROTUM.

- 213 How is the Scrotum formed?
- 214 How is the Scrotum divided?
- 215 Which is the longest of the two lateral halves?
- 216 What is the Scrotum composed of?
- 217 What is the character of the external Layer?
- 218 What is the Dartos?
- 219 What does the Dartos form?

SPERMATIC CORD.

- 220 What is the Spermatic Cord?
- 221 What is it composed of?
- 222 Where does it commence and terminate?
- 223 Is the right or left Spermatic Cord the longest?
- 224 Name the Coverings of the Spermatic Cord from within outwards.

- 225 What is the Septum Crurale?
- 226 What is the Spermatic Fascia?
- 227 What is the Cremasteric Covering?
- 228 What is the Fascia Propria?
- 229 Whence are the Arteries of the Spermatic Cord derived?
- 230 Where do the Veins of the Spermatic Cord return their Blood?
- 231 Whence are the Nerves of the Spermatic Cord derived?
- 232 What Arteries supply the Cremasteric Covering?
- 233 What Nerve supplies the Cremaster Muscle?

FEMALE ORGANS OF GENERATION.

- 234 How are the Generative Organs of the Female divided?
- 235 What do the external parts consist of?
- 236 What do you observe within the external Labia?
- 237 What is the Mons Veneris?
- 238 What are the external Labia vel Labia Majora?
- 239 What do they form?
- 240 What do they form anteriorly and posteriorly?
- 241 What is the name of the transverse Fold of Integument within the inferior Commissure?
- 242 What is the name of the small Cavity within this Fold?
- 243 What is the name of the space situated between the inferior Commissure and the Anus?

ORIFICE OF THE VAGINA.

- 244 Where is the Aperture of the Vagina?

HYMEN.

- 245 What is the Hymen?
- 246 What is the direction of its concave margin?
- 247 What are the Carunculæ Myrtiformes?
- 248 Is the presence of the Hymen always a necessary accompaniment or test of virginity?

CLITORIS.

- 249 What is the Clitoris?
- 250 What Male organ resembles the Clitoris?
- 251 What is the structure of the Clitoris?

LABIA MINORA VEL NYMPHÆ.

- 252 What are the Nymphæ?
- 253 What are they continuous with superiorly?

- 254 What are they continuous with inferiorly?
- 255 What are they composed of?
- 256 What is the Mucous Membrane continuous with?
- 257 What is the external surface continuous with?

VESTIBULE.

- 258 What is the Vestibule?
- 259 What is the extent of the Vestibule?
- 260 What is situated in the middle line of this triangular surface?
- 261 What is situated at the upper angle of the Vagina?

URETHRA.

- 262 What is the length and situation of the Female Urethra?
- 263 What is the structure of the Female Urethra?
- 264 How is the Mucous Membrane disposed?
- 265 What is this Membrane continuous with?
- 266 Whence are the Muscular Fibres derived?
- 267 What is the situation of the Elastic or Submucous Layer?
- 268 What do the internal Parts of Generation consist of?

VAGINA.

- 269 What is the Vagina?
- 270 What is its length and form?
- 271 What is its direction?
- 272 What is it in relation with anteriorly?
- 273 What is it in relation with inferiorly?
- 274 To what is it attached laterally?
- 275 What does its upper extremity receive?
- 276 What Muscle surrounds the lower or inferior extremity?
- 277 What part of the Vagina is covered by the Peritoneum?
- 278 Are the two surfaces (the anterior and posterior) of the Tube of equal length?
- 279 Is the diameter of the Tube equal throughout its course?
- 280 What is the structure of the Vagina?
- 281 What does the Mucous Membrane present?
- 282 Where do these Rugæ proceed from?
- 283 What is the extent of the Mucous Membrane?
- 284 Is the Mucous Coat lined?
- 285 What is the extent of the middle or Erectile-tissue Layer?

- 286 What does the external Layer resemble?
287 How are its Fibres disposed?
288 What is the extent of these Fibres?
289 Does this attachment to the Fascia explain why the Bladder descends or is dragged down in Prolapsus Uteri?
290 Then why does it not equally drag down the Rectum to which it is also attached?
291 Where do the longitudinal Fibres terminate?
292 What are the two masses of Erectile-tissue on either side the opening of the Vagina composed of?
293 What is their length and how enclosed?
294 With what do they communicate?
295 What are the Glands of Bartholine?
296 What is their situation?
297 What is their size?
298 Are they provided with a Duct?
299 Whence are the Arteries of the Vagina derived?
300 Where do the Veins of the Vagina return their Blood?
301 Whence are the Nerves of the Vagina derived?

UTERUS.

- 302 What is the Uterus?
303 What is its form and situation?
304 What is the direction of its base?
305 What is the direction of its Apex?
306 What is the form of its anterior surface?
307 What is the form of its posterior surface?
308 What is its length, breadth, thickness and weight?
309 What is its weight after Parturition?
310 What is its weight at the full period of Utero-gestation?
311 How is the Uterus divided?
312 Which divisions of the Uterus are enclosed in a Fold of Peritoneum?
313 What is the form of the Fundus or upper part?
314 What is the name of the Folds formed by the Duplicates of Peritoneum?
315 What is attached to the body of the Uterus on either side in the broad Fold of the Peritoneum?

- 316 What is the form and length of the Cervix or lower division of the Uterus?
- 317 What is the name of the transverse Aperture of communication between the Uterus and Vagina?
- 318 How is the Os Uteri bounded before and behind?
- 319 Which is the longest?
- 320 What is the form of the body of the Cavity or internal surface of the Uterus?
- 321 What do you observe at the two superior Angles of this Cavity?
- 322 What is the direction of the Apex on this internal surface?
- 323 What does it join?
- 324 What do you observe in the Canal of the Cervix Uteri?
- 325 What is the name given to the numerous Mucous Follicles (situated between these Folds) when they become distended with their proper secretion?
- 326 How many openings are there into the Cavity of the Uterus?
- 327 Where do the two openings from the upper Angles lead to?
- 328 What is the size of these openings at the superior Angles?
- 329 Where does the opening at the Cervix lead to?
- 330 What is the name given to this opening into the Vagina?
- 331 What is the structure of the Uterus?
- 332 What does the Peritoneum form?
- 333 What is the name of the small Fold of Peritoneum between the Cervix Uteri and posterior part of the Bladder on either side?
- 334 What does the broad Ligament from its position across the Pelvis divide?
- 335 What is situated in the anterior part or division of this Cavity?
- 336 What is situated in the posterior division of this Pelvic Cavity?
- 337 Which Coat or Tunic gives thickness and bulk to the Uterus?
- 338 How many Layers or Strata does this Coat form?

- 339. In what condition of the Uterus are these Strata most distinct?
- 340 How are the Fibres of the external Coat or Layer arranged?
- 341 How are the internal Fibres arranged?
- 342 How are the middle Fibres disposed?
- 343 What is the position of the internal or Mucous Coat?
- 344 What do you observe on this internal Coat?
- 345 What are the round Ligaments of the Uterus?
- 346 What is their length, and how formed?
- 347 What is their situation?
- 348 What is their course and termination?
- 349 Whence are the Arteries of the Uterus derived?
- 350 Where do the Veins of the Uterus return their Blood?
- 351 What is there peculiar in the Uterine Veins?
- 352 Whence are the Nerves of the Uterus derived?

FALLOPIAN TUBES.

- 353 What are the Fallopian Tubes?
- 354 Where are the Fallopian Tubes situated?
- 355 Are all these processes of equal length?
- 356 What is the use of this lengthened process, or, as Cruveilhier terms it, "Ligamentous Cord?"
- 357 What does the centre of the Fimbriated extremity present?
- 358 What is the length of the Fallopian Tube?
- 359 Is the Tube of equal size throughout its extent?
- 360 What is the structure of the Fallopian Duct?
- 361 How are the Fibres of the middle or Muscular Layer disposed?
- 362 Which are the most external?
- 363 What does the Mucous Coat present?
- 364 What is the course of the Mucous Coat?
- 365 What lines the surface of the Duct?
- 366 Whence are the Blood Vessels and Nerves derived?

OVARIES.

- 367 What are the Ovaries?
- 368 Where are the Ovaries situated?
- 369 What is their colour, weight and size?

- 370 How is the Ovary connected with the broad Ligament?
- 371 To what is its outer end attached?
- 372 To what is its inner extremity attached?
- 373 What is the structure of an Ovary?
- 374 Does the Serous Coat completely invest the Ovary?
- 375 What is the character of the Fibrous Coat?
- 376 What is occasionally observed in this middle or Fibrous Coat?
- 377 What is the Corpus Luteum?
- 378 What are the Ovisacs?
- 379 What is their number and size?
- 380 Do some of them ever appear projecting through the middle or Fibrous Coat?
- 381 What are they composed of?
- 382 What is the name of this Coat?
- 383 Is this Coat lined?
- 384 What is contained within the Fluid of the Graafian Vesicle or Ovisac?
- 385 Whence are the Arteries of the Ovaries derived?
- 386 Where do the Veins of the Ovaries return their Blood?
- 387 Whence are the Nerves of the Ovaries derived?

152- SECTION XXVI.—ORGANS OF SENSE.

- 1 What are the Organs of Sense?
- 2 What are the names of the Organs of the Senses?

ORGAN OF VISION.

- 3 What the Organs of Vision?
- 4 Where are the Eyeballs situated?
- 5 What are the Orbits?
- 6 Where are they situated?
- 7 How many Bones compose each Orbit?
- 8 What are the names of the Bones which compose each Orbit?
- 9 How is each Orbit bounded?
- 10 How many Foramina communicate with the Orbit?
- 11 Name the Foramina of the Orbit.
- 12 What are the contents of the Orbits?

EYEBALLS.

- 13 What is the form of the Eyeball?

- 14 How is the Eyeball divided?
- 15 What does the anterior part form?
- 16 What does the posterior part form?
- 17 How many Coats has the Eyeball?

TUNICA SCLEROTICA.

- 18 What is the Sclerotica?
- 19 What Nerve pierces the Tunica Sclerotica posteriorly?
- 20 What part of its Coat does the Optic Nerve pierce?
- 21 What is the extent of the "Tunica Sclerotica?"
- 22 What other Apertures are placed around that of the Optic Nerve?
- 23 What is the extent of the large round bevelled edge into which the Cornea is received?
- 24 What is the appearance of the outer surface of this Tunic?
- 25 What is the appearance of the inner surface of this Tunic?
- 26 Which part of the Sclerotic Tunic is the thickest?
- 27 What is the structure of the Sclerotic Coat?
- 28 Whence are the Nerves of the Sclerotic Coat derived?
- 29 What does the Sclerotic Coat form at the entrance of the Optic Nerve?
- 30 Are all these Apertures of the same size?
- 31 Where is it situated, and what does it transmit?

CORNEA.

- 32 What is the Cornea?
- 33 What is the form of its anterior surface?
- 34 What is the form of its posterior surface?
- 35 How is it connected with the Tunica Sclerotica?
- 36 Which is its greatest diameter, the vertical or transverse?
- 37 What is in relation with its circumference?
- 38 What is its use?
- 39 What is its appearance after death, or after being immersed in water?
- 40 What is its structure?
- 41 What is in relation with the Cornea Proper anteriorly?
- 42 What is in relation with the Cornea Proper posteriorly?
- 43 What is the Cornea Proper composed of?
- 44 Do Blood Vessels ramify in its structure?
- 45 Do Nerves exist in this Membrane?

THE CHOROID (TUNICA VASCULOSA.)

- 46 What is the Tunica Choroides?
- 47 What is its colour externally?
- 48 What is its colour internally?
- 49 What is the situation of the Choroid?
- 50 What does it present posteriorly?
- 51 How many Coats is the Choroid composed of?
- 52 What does the external Layer consist of?
- 53 What does the middle Layer consist of?
- 54 What is the internal Layer?
- 55 Which Layer is connected with the Ciliary Ligament?
- 56 Which Layer forms the Ciliary processes?
- 57 Who was Ruysch?
- 58 Does the colouring matter exist in animals, *e.g.* the Ox?
- 59 Does the colouring matter exist in the Albino?
- 60 What is the use of the colouring matter?
- 61 What are the Ciliary processes (Pars Plicata)?
- 62 What is the number of these Folds?
- 63 What is the form of each process or Fold?
- 64 What is their Periphery or circumference connected with?
- 65 What is their central border connected with?
- 66 With what are the Ciliary processes coated?
- 67 What is the appearance of these processes when the Pigment is washed of?
- 68 Are these processes, which are placed side by side, of equal size throughout?
- 69 What are these processes connected with posteriorly?
- 70 Into what are they received posteriorly?
- 71 What is the Ciliary Ligament?
- 72 What does it form?
- 73 What is attached to this Ligament posteriorly?
- 74 What is attached to this Ligament anteriorly?
- 75 What passes through its substance?
- 76 What do you observe around its circumference?
- 77 What does this Groove form when in apposition with the Sclerotic?
- 78 Who was Felix Fontana?
- 79 Where is the Ciliary Muscle situated?

80 Where does it commence and terminate?

81 What Nerves pierce its Fibres?

IRIS.

82 What is the Iris?

83 What do you observe in the centre of the Iris?

84 Is this circular opening in the very centre of the Iris?

85 What is its periphery or circumference attached to?

86 What does its inner circumference form?

87 What is the structure of the Iris?

88 Which is the Muscular Radiating Layer?

89 Where is the circular Layer situated?

90 What is the appearance of the posterior surface?

91 Where is its anterior surface directed?

92 Where is its posterior surface directed?

93 What is the diameter of the circular Layer or Sphincter of the Pupil?

94 How is the dilatation of the Pupil effected?

95 How is the contraction or diminution of the Pupil effected?

96 What is the appearance of the Pigment Cells of the Iris?

97 What does the colour of the Iris depend upon?

98 What is the name of the delicate transparent Membrane which closes the Aperture of the Pupil of the Fœtus up to the seventh month?

99 Whence are the Arteries of the Iris derived?

100 Where do the Veins return their Blood?

101 Whence are the Nerves derived?

102 Where do the Ciliary Filaments terminate?

103 What do the long Ciliary Branches which are derived from the short (or posterior) Ciliary Arteries form?

RETINA.

104 What is the Retina?

105 Where is the Retina situated?

106 Where does it commence and terminate?

107 How many Layers is the Retina composed of?

108 What is the name given to the external layer?

109 What are the characters of this Membrane?

110 What are the characters of the middle Layer?

111 What passes between this Striated structure?

- 112 What is the internal Layer composed of?
- 113 Where does this Artery enter the Eyeball?
- 114 What is the Foramen of Soemmerring?
- 115 What is the name given to the yellow halo which surrounds it?
- 116 What passes over this yellow spot?

ZONULA CILIARIS.

- 117 What is the Zonula Ciliaris?
- 118 What is the name given to it by Retzius?
- 119 What does its surface present?
- 120 How are these Folds arranged?
- 121 What covers the surface of these Folds?
- 122 What is the under surface of the Zonula Ciliaris in relation with?
- 123 What separates the plaited part of the Zonula Ciliaris from the front of the Hyaloid Membrane?
- 124 What is the appearance of this Canal after it has been punctured and distended with air?

HUMOURS OF THE EYE.

- 125 What are the Humours of the Eye?
- 126 What is the Aqueous Humour?
- 127 What do you mean by the anterior chamber of the Eye?
- 128 What do you mean by the posterior chamber of the Eye?
- 129 How do these two chambers communicate?
- 130 What is the Fluid enclosed in?
- 131 What is the use of this Fluid?

VITREOUS HUMOUR.

- 132 What is the Vitreous Humour?
- 133 What is the name of the Membrane within which it is enclosed?
- 134 What does the inner surface of this Membrane form?
- 135 What passes through the centre of this Fluid to the Capsule of the Lens in the Fœtus?
- 136 What is the Artery enclosed in?
- 137 What is received into the anterior part of this Vitreous body?
- 138 Whence are the Blood Vessels of the Vitreous Humour and its Membrane derived?

CRYSTALLINE LENS.

- 139 What is the situation of the Crystalline Lens?
- 140 What separates the Lens from the Vitreous Humour?
- 141 What is the name of the Fluid which (when it does exist) is contained between the Lens and its Capsule?
- 142 What is the Fluid of Morgagni contained in?
- 143 What is the form of the Lens when removed from its Capsule?
- 144 Which convex surface is the largest?
- 145 What is the form of its margin?
- 146 What is the Lens composed of?
- 147 How do you demonstrate the existence of these Laminæ?
- 148 What is the diameter of the Lens?
- 149 What do you observe on the two surfaces of the Lens?
- 150 What do the concentric Laminæ consist of?
- 151 What is the diameter of one of these Fibres?
- 152 What is the name of the firm elastic and transparent Membrane which encloses the Lens?
- 153 What surrounds the circumference of the Lens?
- 154 What are the boundaries of this Canal?
- 155 Whence are the Vessels of the Crystalline Lens derived?
- 156 What is the form and colour of the Lens in the Fœtus?
- 157 What is the appearance of its texture in the Fœtus?
- 158 What is its appearance in adult age?
- 159 What is its appearance in advanced life?
- 160 What is Myopia or Short-sightedness?
- 161 How is this condition of the Eye to be remedied?
- 162 What is Presbyopia or Long-sightedness?
- 163 How is this condition of the Eye to be remedied?

APPENDAGES OF THE EYE.

- 164 What are Appendages of the Eye (Tutamina Oculi)?

CONJUNCTIVA.

- 165 What is the Tunica Conjunctiva?
- 166 What is its situation?
- 167 What do these Duplicatures of the Membrane form superiorly and inferiorly?
- 168 What part of this Tunic is Extra-vascular?
- 169 What parts of it are very Vascular?

- 170 What Membrane is this Tunic continuous with ?
- 171 In what way is this Tunic continuous with the Gastro-pulmonary Mucous Membrane ?
- 172 Is this Membrane protected with an Epithelial Covering ?
- 173 What is the Caruncula Lachrymalis ?
- 174 What is it composed of ?
- 175 What do you observe on its surface ?
- 176 What does it secrete ?
- 177 What do you observe to the external side of the Caruncula Lachrymalis ?

- 178 What does it resemble in Birds ?

SUPERCILIUM OR EYEBROW.

- 179 What is the Eyebrow ?
- 180 What is each Eyebrow connected with ?
- 181 What is each Eyebrow provided with ?
- 182 What is the use of the Eyebrows ?

PALPEBRÆ OR EYELIDS.

- 183 What are the Eyelids ?
- 184 Which Eyelid is the largest and most moveable ?
- 185 What is the name of the inner and outer angles of union of the superior and inferior Eyelids ?
- 186 Which is the largest Canthus ?
- 187 What is the name given to the transverse separation of the superior and inferior Eyelid ?
- 188 What is the name of the small triangular space which is seen between the Lids at the inner Canthus ?
- 189 What is the name of the small white eminence on each Eyelid near the Lacus Lachrymalis ?
- 190 What is the name of the small Orifice situated at the Apex of each Lachrymal Tubercle ?
- 191 What is each Eyelid composed of ?
- 192 What is the situation of the Orbicularis Palpebræ ?
- 193 What is the Palpebral Ligament ?
- 194 What other name is sometimes given to this Membrane ?
- 195 Does it contain fat ?
- 196 What are the Tarsal Cartilages (Tarsi) ?
- 197 What is their length and form ?
- 198 What Muscles are attached to the forepart of the upper Tarsal Cartilage ?

- 199 How are the Tarsal Cartilages attached internally?
- 200 How are the Tarsal Cartilages attached externally?
- 201 Where are the Ciliary or Meibomian Glands situated?
- 202 How are these Grooves arranged?
- 203 What is the number of these Glands in the upper and lower Tarsal Cartilages?
- 204 Where do the Foramina or Apertures of these Glands open?
- 205 What is the character of one of these Glands?
- 206 What is the situation of the Eyelashes (Cilia)?
- 207 Which are the largest?
- 208 What is their direction in the upper Lid?
- 209 What is their direction in the lower Lid?
- 210 Whence are the Arteries of the Eyelids derived?
- 211 Whence do the Veins of the Eyelids return their Blood?
- 212 Whence are the Nerves of the Eyelids derived?
- 213 Name the Branches of the fifth Nerve which supply the upper Eyelid.

LACHRYMAL APPARATUS.

- 214 What parts compose the Lachrymal Apparatus in each Eye?
- 215 Where is the Lachrymal Gland situated?
- 216 How is it divided?
- 217 What is the form, length and situation of the Orbital part?
- 218 What is in relation with this portion of the Gland?
- 219 What is the situation of the Palpebral part?
- 220 What surrounds this portion of the Gland?
- 221 What is the structure of the Lachrymal Gland?
- 222 Where do the Lachrymal Ducts open?
- 223 What are the Puncta Lachrymalia?
- 224 What distance is a Punctum Lachrymale from the inner Canthus of the corresponding side?
- 225 What are the Lachrymal Canals?
- 226 Which Canal is the longest?
- 227 Where do they open into the Sac?
- 228 Do they open by one or two Orifices?
- 229 What is the Lachrymal Sac?
- 230 Where is it situated?

- 231 What Bones form the Lachrymal Groove?
- 232 What occasionally divides the Sac internally from the Nasal Duct?
- 233 What covers the Sac externally?
- 234 What is the extent of the Nasal Duct?
- 235 What is its length and direction?
- 236 What is this Duct lined with?
- 237 What is the name of the disease which arises from obstruction of this Duct, (generally the result of Inflammation)?
- 238 Whence are the Arteries of the Lachrymal Gland derived?
- 239 Whence are the Nerves of the Lachrymal Gland derived?
- 240 How are the Tears conveyed from the Lachrymal Gland to the inferior Meatus of the Nose?

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SECTION XXVII.—ORGAN OF SMELL.

- 1 What constitutes the Organ of Smell?
- 2 How is the Organ divided?
- 3 What is the form and situation of the Nose?
- 4 How is it connected with the Forehead?
- 5 What does it present inferiorly?
- 6 What divides the Openings of the two Nostrils?
- 7 How is the Entrance of the Nostrils guarded?
- 8 What is the Nose composed of?
- 9 What does the Integument form?
- 10 What does it present on its surface, particularly around the tip?
- 11 Name the Muscles of the Nasal Region.
- 12 Have the origins and insertions of these Muscles been described?
- 13 How many Cartilages does the Nose consist of?
- 14 Name them.
- 15 What is the form and situation of the central one (Septum Nasi)?
- 16 Does this central Cartilage complete the Septum of the Nostrils?
- 17 What Bones, with this Cartilage, complete the Septum?

- 18 What is the form and situation of the lateral Cartilages?
- 19 What is the form and situation of the inferior Cartilages or Cartilages of the Apertures?
- 20 How are the Arches of the inferior Cartilages prolonged downwards and forwards?
- 21 Whence are the Arteries of the Nose derived?
- 22 Is the Septum Nasi supplied with an Artery?
- 23 Whence are the Nerves of the Nose derived?

NASAL FOSSÆ.

- 24 What are the Nasal Fossæ?
- 25 How are the Nasal Fossæ bounded?
- 26 What is the name of the three convoluted pieces of Bone on the outer wall of each Fossæ?
- 27 Which belong to the Ethmoid Bone?
- 28 What does the inferior belong to?
- 29 What is the name of the spaces between each Spongy Bone and the Wall of the Nose?
- 30 What are these Meatuses respectively called?
- 31 What is their position?
- 32 What is the direction of these Meatuses?
- 33 Which is the smallest of the three Meatuses?
- 34 What open into the superior Meatus anteriorly?
- 35 What opens into this Meatus in the dried Bone?
- 36 What open into the middle Meatus anteriorly?
- 37 What opens in the inferior Meatus anteriorly?
- 38 What opens into this Meatus in the dried Bone?
- 39 Into what parts does the Mucous Membrane receive the odorant particles of air?
- 40 What is the name of the Mucous Membrane which lines the Nasal Fossæ?
- 41 With what is the Mucous Membrane continuous?
- 42 Whence are the Arteries of the Nasal Fossæ derived?
- 43 Whence are the Nerves of the Nasal Fossæ derived?

SECTION XXVIII.—ORGAN OF HEARING. 165.

- 1 What is the Organ of Hearing?
- 2 What Bone is connected with the Organ of Hearing?
- 3 How is the Organ of Hearing divided?

- 4 Name the three divisions into which the Ear is divided.
- 5 What does the external Ear consist of?
- 6 What is the form of the Pinna?
- 7 What does the surface of the Pinna present?
- 8 What is the name of the external folded margin of the Pinna?
- 9 What is the name of the Eminence in front of the Helix?
- 10 What is the name of the triangular Projection over the opening of the Ear from the Face, whose under surface is covered with hairs?
- 11 What is the name of the Projection opposite the Tragus?
- 12 How is the Pinna terminated inferiorly?
- 13 What is the name of the depression which separates the Helix from the Anti-helix?
- 14 What is the name of the upper triangular depression formed by the Bifurcation of the Anti-helix?
- 15 What is the name of the large central depression which leads directly into the Meatus Auditorius Externus?
- 16 What is the Pinna composed of?
- 17 What surrounds the Pinna?
- 18 What is the form of the Cartilage of the Pinna?
- 19 What does the surface of the Cartilage present when the Integument is removed?
- 20 What does the termination of the Helix and Anti-helix form?
- 21 Where are the Fissures of the Cartilage situated?
- 22 What are the Ligaments of the Pinna?
- 23 Name the Muscles which attach the external Ear to the side of the Head.
- 24 Which is the largest of these three Muscles?
- 25 What is the form, origin and insertion of the Attollens Aurem (Superior Auris)?
- 26 What is the use of this Muscle?
- 27 What is the form, origin and insertion of the Attrahens Aurem (Anterior Auris)?
- 28 What is the use of this Muscle?
- 29 What Vessels are placed beneath this Muscle?
- 30 What is the origin and insertion of the Retrahens Aurem (Posterior Auris)?

- 31 What is the use of this Muscle?
- 32 What Artery and Nerve are in relation with this Muscle?
- 33 Name the proper Muscles of the Pinna.
- 34 Where are these five Muscles attached?

MEATUS AUDITORIUS EXTERNUS.

- 35 What is the Meatus Auditorius Externus?
- 36 What is its direction?
- 37 What is its length and form?
- 38 Which portion of it is most contracted?
- 39 What is it composed of?
- 40 Which is the longest portion?
- 41 How is it lined?
- 42 What do you observe within this Canal?
- 43 What Glands or Follicles are placed beneath the Integument?
- 44 What is the use of these Follicles?
- 45 Whence are the Arteries of the Pinna derived?
- 46 Whence are the Nerves of the Pinna derived?

TYMPANUM OR MIDDLE EAR.

- 47 What is the Tympanum?
- 48 What separates the Meatus Auditorius Externus from the Cavity of the Tympanum?
- 49 What is the Membrana Tympani attached to?
- 50 What is the form of the Membrana Tympani?
- 51 What is the form of the external surface of the Membrana Tympani?
- 52 What is the form of the internal surface of the Membrana Tympani?
- 53 What is the Membrana Tympani composed of?
- 54 What is attached to the upper half of the Membrana Tympani?
- 55 How is the Cavity of the Tympanum bounded?
- 56 What is the Promontory and its situation?
- 57 How is this Promontory formed?
- 58 What do you observe on this Bony Eminence?
- 59 What Bones are completely ossified at birth?
- 60 How many Bones does the Tympanum contain?
- 61 What is the Os Orbiculare?

- 62 Which Bone is the longest ?
- 63 How is the Malleus divided ?
- 64 What is the form of the Head ?
- 65 With what Bone does the Malleus articulate ?
- 66 Where is the Neck situated ?
- 67 What is the Handle of the Malleus ?
- 68 What is the small or short process connected with ?
- 69 What is the long process of the Malleus (Processus Gracilis) ?
- 70 What Muscle is attached to this process ?
- 71 What is the situation of the Malleus ?
- 72 What is the situation of the Incus ?
- 73 How is the Incus divided ?
- 74 Which division articulates with the Malleus ?
- 75 Are the two processes of equal length ?
- 76 What is attached to the short process ?
- 77 How does the long process terminate ?
- 78 What does the extremity of this long process articulate with ?
- 79 What is the position of the Incus ?
- 80 What is the situation of the Stapes ?
- 81 Which Bone is most essential to Hearing ?
- 82 How is the Stapes divided ?
- 83 What is the form of the Base ?
- 84 What do you observe on the Head of the Stapes ?
- 85 What is the Neck of the Stapes ?
- 86 What Muscle is attached to the Neck ?
- 87 What is the extent of the two processes ?
- 88 Are these two processes of equal length ?
- 89 What do you observe along the inner border of each Crus ?
- 90 Where do the two processes converge ?
- 91 What is the direction of the two Crura ?
- 92 What is situated between the Crura of the Stapes ?
- 93 How is this Membrane attached to the Crura ?
- 94 How are the Ossicula Auditûs united into one chain ?
- 95 How are the Ossicula Auditûs retained in their position ?
- 96 Have these Ligaments been described as Muscles ?
- 97 Name the Muscles of the Tympanum vel Ossicula Auditûs.
- 98 Which is the largest Muscle of the Tympanum ?

- 99 What is the origin and insertion of the Tensor Tympani?
- 100 What is the origin and insertion of the Laxator Tympani (Musculus Externus Mallei?)
- 101 What is the origin and insertion of the Stapedius?
- 102 How many openings are there into the Tympanum?
- 103 Name the large openings into the Tympanum.
- 104 What is the situation of the Fenestra Ovalis?
- 105 How is the opening placed?
- 106 What does this opening form?
- 107 What is situated in this opening?
- 108 What is the situation of the Fenestra Rotunda?
- 109 What separates these two Fenestræ?
- 110 What does the Fenestra Rotunda form?
- 111 What closes this opening in the recent state?
- 112 Where do the Mastoid Cells open into the Tympanum?
- 113 What do the Mastoid Cells contain?
- 114 What is the Eustachian Tube?
- 115 What is its length and direction?
- 116 What is its structure?
- 117 Which extremity is the most dilated?
- 118 Which extremity of the Tube is osseous?
- 119 What is the length of the osseous part of the Tube?
- 120 What is the length of the cartilaginous part of the Tube?
- 121 What is its extent?
- 122 How is the Eustachian Tube lined?
- 123 What is the structure of the Membrane which closes the Fenestra Rotunda in the recent state—sometimes called the secondary Membrane of the Tympanum?
- 124 What covers the Mucous Membrane of the Tympanum?
- 125 Name the small openings into the Tympanum.
- 126 Where does the Chorda Tympani Nerve enter the Tympanum?
- 127 Where does the Chorda Tympani Nerve leave the Tympanum?
- 128 Where is the opening of the Tensor Tympani Muscle situated?
- 129 Where is the opening of the Laxator Tympani Muscle situated?

- 130 Where is the opening of the Stapedius Muscle situated?
- 131 What is the Pyramid of the Tympanum?
- 132 Where is it situated?
- 133 What does the apex or summit of the Pyramid present?
- 134 What does the canal lodge into which this opening leads?
- 135 What is the name of the projection of Bone just below the aperture of the Tensor Tympani in the inner wall of the Tympanum?
- 136 Whence are the Arteries of the Tympanum derived?
- 137 Are any small branches derived from the internal Carotid Artery?
- 138 Where do the Veins of the Tympanum return their blood?
- 139 Whence are the Nerves of the Tympanum derived?
- 140 What branch of the Facial Nerve runs across the Membrane of the Tympanum?

LABYRINTH OR INTERNAL EAR.

- 141 What is the situation of the Labyrinth?
- 142 What is it composed of?
- 143 How is the osseous portion of the Labyrinth divided?
- 144 What is the Vestibule?
- 145 Where is the Vestibule situated?
- 146 What is in relation with it anteriorly and posteriorly?
- 147 Name the large openings of the Vestibule.
- 148 What is the Fenestra Ovalis?
- 149 What is the Scala Vestibuli?
- 150 What are the Semicircular Canals?
- 151 How are these Canals divided?
- 152 What is the name of the dilatation which exists at one extremity of each of the Canals?
- 153 What is the position of the superior Vertical Canal?
- 154 What is the situation of its Ampulla?
- 155 Which is the longest of the three Canals?
- 156 What is the position of the posterior Vertical Canal?
- 157 What is the situation of its Ampulla?
- 158 Which is the smallest of the three Canals?
- 159 What is the position of the Horizontal Canal?
- 160 What is the situation of its Ampulla?
- 161 How many openings have the Semicircular Canals into the Vestibule?

- 162 Why have these three Canals only five openings?
- 163 Name the small openings into the Vestibule.
- 164 What is the Aquæductus Vestibuli?
- 165 What does this Aqueduct transmit?

COCHLEA.

- 166 What is the situation of the Cochlea?
- 167 What is its form?
- 168 How many Turns or Coils does the Cochlea make?
- 169 How do these Coils run in the right Ear?
- 170 How do these Coils run in the left Ear?
- 171 What is the length of this Osseous Coil?
- 172 How does the Spiral Tube terminate above?
- 173 Which is the largest Coil or Turn of the Tube?
- 174 What Projection does this Turn give rise to?
- 175 How is this Tube divided in the recent state of the Organ?
- 176 What is the structure of this Septum in the recent state?
- 177 What is the name of the hook-like process by which the Lamina Spiralis terminates, near the Apex of the Cochlea?
- 178 What are the Scalæ of the Cochlea?
- 179 Which is the most anterior of the two Scalæ?
- 180 Where do the Scalæ open inferiorly?
- 181 Where do the Scalæ communicate superiorly?
- 182 Where is the Aquæductus Cochleæ situated?
- 183 What is the extent of the Membranous portion of the Septum?
- 184 What name has been given to this Membranous portion?
- 185 What is the Modiolus?
- 186 What is its form?
- 187 How far is the Axis or Modiolus perforated?
- 188 Are these Foramina of equal size?
- 189 How is the inner surface of the Osseous Labyrinth lined?
- 190 What office does the internal Layer perform?
- 191 What is the name of the Serous Fluid which it secretes?
- 192 What is the extent of this Fibro-serous Membrane?
- 193 What is the Membrane of the Labyrinth?
- 194 What is the name of these two Sacs?

- 195 Which is the largest Sac?
- 196 What is its form transversely and situation?
- 197 What is the form and situation of the Saccule?
- 198 What do these Sacs contain?
- 199 Do these Sacs communicate with each other?
- 200 What is the structure of the Membranous Labyrinth?
- 201 What is the name of the Fluid contained in the two Sacs?
- 202 What separates the Membranous Labyrinth from the inner or lining Membrane of the Labyrinth?
- 203 What is the name of the small Calcareous Masses situated within the two Sacs?
- 204 What are these small prismatic particles composed of?
- 205 Where are these small Masses suspended in the Endolymph?
- 206 Name the passages which convey the Nerves of the Cranium to the Labyrinth or internal Ear.
- 207 What does the Hiatus Fallopii transmit?
- 208 What does the Meatus Auditorius Internus contain?
- 209 Into how many Branches does the Auditory Nerve divide whilst within the Meatus Internus?
- 210 What is the name of the anterior Branch?
- 211 What is the name of the posterior Branch?
- 212 Where does the Cochlear Nerve divide into numerous filaments or twigs?
- 213 How does the posterior or Vestibular Nerve terminate?
- 214 Where are the Filaments given off from the superior Vestibular Branch distributed?
- 215 Where are the Filaments given off from the middle Vestibular Branch distributed?
- 216 Where are the Filaments given off from the inferior Vestibular Branch distributed?
- 217 Which is the smallest of the three Vestibular Branches?
- 218 Do similar nervous expansions exist in the other semi-circular Canals?
- 219 What is the name given to the plate or ridge of Bone in which numerous Foramina transmit the Filaments of the Auditory Nerve?
- 220 What is the Aqueduct of Fallopius?

- 221 Where does it commence and terminate?
- 222 What does the Aqueduct of Fallopius transmit?
- 223 Whence are the Arteries of the Labyrinth derived?
- 224 Where do the Veins of the Labyrinth return their Blood?
- 225 What is the Auditory Nerve (Portio-mollis)?
- 226 What is the Facial Nerve (Portio-dura)?

USE OF THE PARTS OF THE EAR.

- 227 What is the use of the Auricle?
- 228 What is the use of the Meatus Auditorius Externus?
- 229 What is the use of the Membrana Tympani?
- 230 What is the use of the Muscles of the Tympanum?
- 231 What is the use of the Ossicula Auditûs?
- 232 What is the use of the Fluid within the Labyrinth?
- 233 What part of the Organ of Hearing perceives the impressions of sound?
- 234 What is the use of the Eustachian Tube?

SECTION XXIX.—THE MOUTH AND ORGAN OF TASTE.

175.

- 1 What is the Mouth?
- 2 What does it contain?
- 3 What are its boundaries?
- 4 What Bones contribute to the formation of the Mouth?
- 5 How is the Mouth divided?

EXTERNAL PARTS OF THE MOUTH.

- 6 What are the external parts of the Mouth?
- 7 What are the Lips?
- 8 How are they formed?
- 9 How are the Lips connected internally to the Gums in the middle line, corresponding with each Symphysis?
- 10 What is the Fossula of the upper Lip?
- 11 What is the union of the Lips at either corner called?
- 12 What is the appearance of the edges of the Lips?
- 13 What is the extent of the Cheeks on either side?
- 14 What Muscles form the principal constituents of the Cheeks?
- 15 What are the Cheeks composed of?
- 16 What perforates the Cheek nearly opposite the second Molar Tooth of the upper Jaw?

- 17 What is the Mucous Membrane of the Mouth continuous with?

INTERNAL PARTS OF THE MOUTH.

- 18 What are the internal parts of the Mouth?
 19 What is the situation of the Gums?
 20 What are they composed of?
 21 What is their character in the natural state?
 22 How is the Hard Palate bounded?
 23 How is the Arch of the Hard Palate formed?
 24 What does it present along its middle line?
 25 What does it present on either side this line?
 26 What does the Papilla immediately behind the middle Incisor Teeth correspond to?
 27 What is the Soft Palate (Velum Pendulum Palati)?
 28 What is it composed of?
 29 What is it continuous with anteriorly?
 30 What is it continuous with inferiorly?
 31 What do you observe passing outwards on either side the Uvula?
 32 How are these Arches distinguished from each other?
 33 Where is the anterior Pillar continued to?
 34 What is the anterior Arch sometimes called?
 35 Where is the posterior Pillar continued to?
 36 What do these two Pillars form as they diverge from their origin to their insertion?
 37 What is situated in these triangular intervals?
 38 What are the Tonsils?
 39 What is their structure?
 40 What is in apposition with them externally?

SALIVARY GLANDS.

- 41 Enumerate the Salivary Glands.
 42 Which is the largest of the Salivary Glands?
 43 Where is the Parotid Gland situated?
 44 Define its superficial extent.
 45 What is the name of that portion of the Gland which is prolonged over the Masseter Muscle on the Face?
 46 What passes through the Parotid Gland?
 47 What Artery lies in the upper part of the Gland?

- 48 What is the structure of the Parotid Gland ?
- 49 What is the name of the Duct of the Parotid Gland ?
- 50 Where does this Duct open into the Mouth ?
- 51 How does this Duct commence ?
- 52 What is the length of Stenon's Duct ?
- 53 What is the structure of the Parotid Duct ?
- 54 Is the Mucous Coat lined ?
- 55 Whence are the Arteries of the Parotid Gland derived ?
- 56 Whence are the Nerves of the Parotid Gland derived ?

SUBMAXILLARY GLANDS.

- 57 Where is the Submaxillary Gland situated ?
- 58 What Muscle does this Gland rest upon ?
- 59 What Muscle is in relation with it anteriorly ?
- 60 What Ligament (placed behind it) separates it from the Parotid Gland ?
- 61 What Artery passes in a Groove on its upper surface ?
- 62 What is the Submaxillary Gland covered by ?
- 63 What is the name of the Duct of the Submaxillary Gland ?
- 64 Where does this Duct open into the Mouth ?
- 65 What Muscle passes over the Duct in its passage to the Mouth ?
- 66 What is the structure of the Submaxillary Gland ?
- 67 How many Coats has Wharton's Duct ?
- 68 What is the length of Wharton's Duct ?

SUBLINGUAL GLANDS.

- 69 Which are the smallest of the Salivary Glands ?
- 70 Where is the Sublingual Gland situated ?
- 71 How does this Gland pour its secretion into the Mouth ?
- 72 What is the structure of the Sublingual Glands ?
- 73 In what does the structure of the Parotid and Sublingual Ducts differ from the Submaxillary Ducts ?

ISTHMUS OF THE FAUCES.

- 74 What is the Isthmus of the Fauces ?
- 75 What are its boundaries ?

TONGUE.

- 76 What is the Tongue ?
- 77 What is the form and situation of the Tongue ?

- 78 What is the Apex of the Tongue in relation with?
- 79 What is the Base in relation with?
- 80 How is the Tongue connected posteriorly with the Epiglottis?
- 81 How is the Tongue connected laterally with the lower Jaw?
- 82 How is the Tongue connected in front beneath its surface?
- 83 What is the form of the Dorsum or upper surface of the Tongue?
- 84 How is the anterior two thirds of this surface divided?
- 85 How many kinds of Papillæ does the upper surface present?
- 86 Enumerate them.
- 87 Where are the Conical and Filiform Papillæ situated?
- 88 What is the direction of these Papillæ?
- 89 Where are the Fungiform Papillæ situated?
- 90 Where are the Calciiform Papillæ situated?
- 91 What is the name of the hole or Mucous Follicle situated at the point where these two rows meet (about three lines from the Base of the Tongue)?
- 92 What is the structure of these Papillæ?
- 93 What separates the two symmetrical halves of the Tongue?
- 94 What is the extent of this Fibrous Septum?
- 95 What are the symmetrical halves composed of?
- 96 How is the Root or Base of the Tongue attached to the the Os Hyoides?
- 97 What is this Membrane supposed to consist of?
- 98 What is the Mucous Membrane which invests the Tongue continuous with?
- 99 What other Glands pour their secretion into the Mouth?
- 100 Name the Muscles of the Tongue.
- 101 How are the Muscular Fibres disposed?
- 102 Whence are the Arteries of the Tongue derived?
- 103 Where do the Veins return their Blood?
- 104 Whence are the Nerves of the Tongue derived?
- 105 Which of these Nerves is the Nerve of Taste?
- 106 Which is the true Motor Nerve of the Tongue?
- 107 Which Nerve possesses both sensation and motion?

SECTION XXX.—ORGAN OF TOUCH.

180.

- 1 What is the Organ of Touch?
- 2 What is the Skin composed of?
- 3 How are these Layers arranged?
- 4 What is the Cuticle?
- 5 In what parts of the body is the Cuticle the thickest?
- 6 What does the outer surface present?
- 7 What is the appearance of the inner surface?
- 8 Is the Cuticle possessed of sensibility?
- 9 What is the structure of the Cuticle?
- 10 What do the depressions on the inner surface correspond to?
- 11 What do the little conical processes on this surface correspond to?
- 12 Name the openings on the Cuticle.

RETE MUCOSUM.

- 13 What is the Rete Mucosum?
- 14 Where does the Colouring Matter of the Skin reside?
- 15 Who first gave to this Layer the name Rete Mucosum?
- 16 Have Vessels or Nerves been detected within its substance?
- 17 How is the Rete Mucosum formed?
- 18 In what races is the Rete Mucosum with the greatest difficulty demonstrated?
- 19 Name some Anatomists who have denied its existence.

CUTIS VERA.

- 20 What is the situation of the Cutis Vera?
- 21 How many Layers does it consist of?
- 22 What is the structure of the Corium?
- 23 What is the appearance of these Filaments on the upper surface?
- 24 Is the Corium of equal thickness throughout the body?
- 25 What is the appearance of the Papillary Layer?
- 26 What is the structure of the Papillary Layer?
- 27 Where are the Papillæ most distinct?
- 28 What appearance do they present on these surfaces?
- 29 Where is the sense of touch most acute?
- 30 Name the parts of the body which are free from Adipose Tissue.
- 31 What is the Adipose Tissue?

32 What is its use?

APPENDAGES TO THE SKIN.

33 What are the Appendages to the Skin?

34 What are the Hairs?

35 How is a Hair divided?

36 What is the form of a transverse section of a Hair?

37 What is the structure of a Hair?

38 What is the appearance of the Stem of a Hair?

39 How does a Hair terminate?

40 What do each of these Tubular Follicles correspond to?

NAILS.

41 Of what are the Nails a continuation?

42 What is the appearance of the Root of the Nail?

43 How is the Root attached to the Skin?

44 What is the appearance of its external surface?

45 What is the name of the white semicircular segment near the Root or posterior extremity of the Nail?

SEBACEOUS FOLLICLES.

46 Where are the Sebaceous Follicles situated?

47 Where are they most abundant?

48 What is their use?

PERSPIRATORY GLANDS.

49 Where are the Perspiratory Glands situated?

50 Where do their Ducts open?

51 When are these Pores most distinct?

THYROID GLAND.

1 What is the situation of the Thyroid Gland or Body?

2 What does this Body consist of?

3 Where is the Isthmus situated?

4 What is the form and length of each Lobe?

5 What Muscles are in relation with this Gland?

6 What is its colour and weight?

7 What is the name of the enlargement to which this Gland is subject?

8 What is the name of the small Muscle which is sometimes connected with the upper border of the Gland?

9 To what Bone is this small Muscle attached?

10 What is the use of the Thyroid Body?

- 11 Whence is the Thyroid Body supplied with Blood?
- 12 Where do the Veins of the Thyroid Body return their Blood?
- 13 Whence are the Nerves of the Thyroid Body derived?

SECTION XXXI.—ANGEOLOGY.

183.

(*Aggeion*, a blood-vessel; and *logos*, a discourse.)

- 1 What are the Arteries?
- 2 How are the Arteries distinguished from the Veins?
- 3 Name the two principal Arteries of the body.
- 4 Where are the Branches of the Pulmonary Artery distributed?
- 5 Where are the Branches of the Aorta distributed?
- 6 How do Arteries terminate?
- 7 What is the structure of Arteries?
- 8 What is the character of the external Coat?
- 9 What is the middle Coat sometimes called?
- 10 How are the Fibres of this Coat disposed?
- 11 What is the colour of this Coat?
- 12 What is the character of the internal or lining Coat?
- 13 How are the Arteries nourished?
- 14 How far have these Arteries been traced?
- 15 What is the name of the Cellular Investment which separates the Arteries from the surrounding parts?

PULMONARY ARTERY.

- 16 What is the origin of the Pulmonary Artery?
- 17 What is the course of the Pulmonary Artery?
- 18 How are these two Branches distributed?
- 19 How does the course of the right Pulmonary Artery differ from that of the left?
- 20 Which is the longest Pulmonary Artery?
- 21 How do the Pulmonary Arteries terminate?

AORTA.

- 22 What is the origin of the Aorta?
- 23 How is the Aorta divided?
- 24 What is the length of the ascending portion?
- 25 What is in relation with this portion anteriorly?
- 26 What is in relation with this portion posteriorly?

- 27 What is in relation with this portion on the right side?
 - 28 What is in relation with this portion on the left side?
 - 29 What is in relation anteriorly with the second or transverse portion, sometimes called the Arch of the Aorta?
 - 30 What is in relation with this portion posteriorly?
 - 31 What is in relation with this portion above?
 - 32 What is in relation with this portion below?
 - 33 What becomes of the descending portion of the Aorta?
 - 34 What is the situation of the Thoracic Aorta?
 - 35 What is the extent of this portion?
 - 36 What is in relation with the Thoracic Aorta anteriorly?
 - 37 What is in relation with it posteriorly?
 - 38 What is in relation with it on the right side?
 - 39 What is in relation with it on the left side?
 - 40 What is the situation of the Abdominal Aorta?
 - 41 What is in relation with the Abdominal Aorta anteriorly?
 - 42 What is in relation with it posteriorly?
 - 43 What is in relation with it on the right side?
 - 44 What is in relation with it on the left side?
 - 45 Which Branches of the descending Aorta arise singly?
 - 46 Name the Arteries given off from the ascending Aorta.
 - 47 Name the Arteries given off from the transverse portion of the Aorta.
 - 48 Name the Arteries given off from the Thoracic portion of the descending Aorta.
 - 49 How are the Arteries of the Abdominal Aorta arranged?
 - 50 Name the first division of Abdominal Arteries.
 - 51 Name the second division of Abdominal Arteries.
 - 52 How, and where, does the Abdominal Aorta terminate?
- ARTERIES OF THE HEART.
- 53 What is the name of the Nutrient Arteries of the Heart?
 - 54 How many Coronary Arteries are there?
 - 55 Where do the Coronary Arteries arise?
 - 56 What is the course of the right Coronary Artery?
 - 57 What is the course of the left Coronary Artery?

SECTION XXXII.—ARTERIES OF THE ARCH OF THE AORTA.

- 1 Where are the Arteries of the Arch of the Aorta distributed, (its transverse portion)?

ARTERIES OF THE HEAD.

- 2 How many common Carotid Arteries are there?
- 3 Where do the Carotid Arteries arise?
- 4 What is the course of the right common Carotid Artery?
- 5 What is the course of the left common Carotid Artery?
- 6 What is in relation with the common Carotid Artery anteriorly?
- 7 What is in relation with the common Carotid Artery posteriorly?
- 8 What is in relation with the common Carotid Artery on the outer side?
- 9 What is in relation with the common Carotid Artery on the inner side?
- 10 Is the right or left common Carotid Artery the longest?

EXTERNAL CAROTID ARTERY.

- 11 What is the course of the external Carotid Artery?
- 12 How many Branches proceed from the external Carotid Artery?
- 13 How are they arranged?
- 14 Enumerate the anterior group.
- 15 Enumerate the posterior group.
- 16 Enumerate the superior or ascending group.
- 17 What is the origin and distribution of the superior Thyroid Artery?
- 18 Name the Branches of the superior Thyroid Artery.
- 19 What is the origin and distribution of the Lingual Artery?
- 20 What are the Branches of the Lingual Artery?
- 21 Name the Branches of the Facial Artery.
- 22 Name the Branches of the Occipital Artery.
- 23 What Foramen does the posterior Meningeal Branch pass through into the Cranium?
- 24 How is the collateral circulation chiefly established between the Carotid and Sub-clavian Arteries after Ligation of the common Carotid Artery?
- 25 Name the Branches of the posterior Auricular Artery.
- 26 What does the Mastoid Artery supply?
- 27 Name the smallest Artery given off from the external Carotid.

- 28 Name the Branches of the ascending Pharyngeal Artery.
- 29 Name the Branches of the Temporal Artery.
- 30 What is the Temporal Artery?
- 31 How does the Temporal Artery terminate?
- 32 Which Branch of the Temporal Artery is the Surgeon occasionally called upon to open?
- 33 Name the Branches of the internal Maxillary Artery.
- 34 Name the Branches and distribution of the Maxillary portion of the internal Maxillary Artery.
- 35 Name the Branches and distribution of the Pterygoid portion of the internal Maxillary Artery.
- 36 Name the Branches and distribution of the Pterygo-maxillary portion of the internal Maxillary Artery.
- 37 Where are the Parotidean Branches distributed?
- 38 Where do the Parotidean Branches arise?
- 39 Does the transverse Facial Branch always arise from the external Carotid Artery?

INTERNAL CAROTID ARTERY.

- 40 What is the course of the internal Carotid Artery?
- 41 Name the Terminal Branches of the internal Carotid Artery.
- 42 What is the origin, course and distribution of the anterior Cerebral Artery?
- 43 What is the course and distribution of the middle Cerebral Artery?
- 44 What do the posterior Communicating Branches form?
- 45 Where do the posterior Communicating Branches terminate?
- 46 Where does the Carotid Artery arise?
- 47 What Artery does the internal Carotid give off just as it pierces the Dura Mater, close by the anterior Clinoid process?
- 48 Where does the Ophthalmic Artery enter the Orbit?
- 49 Name the Branches of the Ophthalmic Artery.
- 50 Where does the Lachrymal Artery arise?
- 51 What does the Lachrymal Artery inosculate with?
- 52 What Foramen does the Supra-orbital Artery pass through?

- 53 How does the *Arteria Centralis Retinæ* enter the Orbit?
- 54 How are the Ciliary Arteries divided?
- 55 Where are the posterior Ciliary Arteries distributed?
- 56 What is their number?
- 57 Where are the long Ciliary Arteries distributed?
- 58 What is their number?
- 59 Where do the anterior Ciliary Arteries arise?
- 60 Where do the anterior Ciliary terminate?
- 61 How many Ethmoidal Arteries are there?
- 62 Which is the largest of the two?
- 63 What is their course and distribution?
- 64 Do the Ethmoidal Arteries give off small Branches to the *Dura Mater*?
- 65 Which Artery accompanies the Nasal Branch of the Ophthalmic Nerve through the anterior Ethmoidal Foramen?
- 66 How many Palpebral Arteries are there?
- 67 What does the superior inosculate with?
- 68 What does the inferior inosculate with?
- 69 Where are the Muscular Branches distributed?
- 70 Whence does the Blood flow when scarifications are made on the inner surfaces of the Eyelids?
- 71 What does the Nasal Artery anastomose with?
- 72 Where is the Frontal Artery distributed?
- 73 Name the Branches given off in the Cavernous Sinus by the internal Carotid Artery.

SECTION XXXIII.—ARTERIES OF THE UPPER EXTREMITIES.

SUBCLAVIAN ARTERIES.

- 1 How many Subclavian Arteries are there?
- 2 How do the Subclavian Arteries arise?
- 3 Is the course of the Subclavian Artery on each side alike?
- 4 What is the course of the second part of the Subclavian Artery on either side?
- 5 What is the course of the third part of the Subclavian Artery on either side?
- 6 What is in relation with the first part of the right Subclavian Artery anteriorly?

- 7 What is in relation with the first part of the right Subclavian Artery posteriorly?
- 8 What is in relation with the first part of the left Subclavian Artery anteriorly?
- 9 What is in relation with the first part of the left Subclavian Artery posteriorly?
- 10 What is in relation with the first part of the left Subclavian Artery on its inner side?
- 11 What is in relation with the first part of the left Subclavian Artery on its outer side?
- 12 Between what Muscles is the second part of the Subclavian Artery situated?
- 13 What is in relation with the third part of the Subclavian Artery above?
- 14 What is in relation with the third part of the Subclavian Artery below?
- 15 What is in relation with the third part of the Subclavian Artery anteriorly?
- 16 What is in relation with the third part of the Subclavian Artery posteriorly?
- 17 Is the right or left Subclavian Artery the longest?
- 18 Enumerate the principal Branches of the Subclavian Artery.
- 19 From what part of the Subclavian Artery does the Vertebral Artery arise?
- 20 What is the course of the Vertebral Artery?
- 21 What crosses the left Vertebral Artery at its commencement?
- 22 Where are the Vertebral Arteries principally distributed?
- 23 How is the Circle of Willis formed?
- 24 Name the Branches which form this Circle.
- 25 What is situated within this Area or Quadrangle of Willis?
- 26 Enumerate the Branches of the Vertebral Arteries.
- 27 Where are the anterior and posterior Spinal Branches distributed?
- 28 What does the anterior Branch communicate with?
- 29 What does the posterior Branch communicate with?

- 30 Where is the posterior Meningeal Artery distributed ?
- 31 Where is the inferior Cerebellar Artery distributed ?
- 32 Between what Nerves do the Vertebral Arteries converge to form the Basilar Artery ?
- 33 From what part of the Subclavian Artery does the internal Mammary Artery arise ?
- 34 What is the course of the internal Mammary Artery ?
- 35 Enumerate the Branches of the internal Mammary Artery.
- 36 Where do the Comes Nervi Phrenici descend ?
- 37 What do the Mediastinal, Thymic, and Pericardiac Branches supply ?
- 38 What do the anterior Intercostal Branches supply ?
- 39 Which of the anterior Intercostal Arteries supply the Mamma in the Female ?
- 40 With what Branches do they anastomose ?
- 41 What does the Musculo-phrenic Branch supply ?
- 42 Enumerate the Branches of the Basilar Artery.
- 43 Where are the Transverse Arteries distributed ?
- 44 What are the superior Cerebellar Arteries ?
- 45 Where do they terminate ?
- 46 What are the posterior Cerebral Arteries ?
- 47 What Nerves separate these Arteries from the superior Cerebellar ?
- 48 Name the chief portions of the Brain which receive their Blood from the Cerebral Branches of the Subclavian Arteries.
- 49 What Artery at its commencement in the base of the Brain separates the sixth pair of Nerves ?

THYROID AXIS.

- 50 What is the origin of the Thyroid Axis ?
- 51 What does the inferior Thyroid Branch supply ?
- 52 What does the Supra-scapular Branch supply ?
- 53 What Vessels does the Supra-scapular anastomose with ?
- 54 What is the Supra-scapular sometimes called ?
- 55 What is the posterior Scapular sometimes called ?
- 56 What Vessels does the posterior Scapular anastomose with ?
- 57 What are the Branches of the posterior Scapular ?

SUPERIOR INTERCOSTAL ARTERY.

- 58 What is the origin and termination of the superior Intercostal Artery?
- 59 Where are the Branches of this Artery distributed?
- 60 What is the deep Cervical Artery (*Arteria Profunda Cervicis*)?

AXILLARY ARTERIES.

- 61 How many Axillary Arteries are there?
- 62 How do the Axillary Arteries arise?
- 63 What is the direction of the Artery in this course?
- 64 In what does the Artery terminate?
- 65 What is in relation with the Artery anteriorly?
- 66 What is in relation with the Artery on its inner side?
- 67 What is in relation with the Artery on its outer side?
- 68 Enumerate the Branches of the Axillary Artery.
- 69 Where is the superior Thoracic Branch distributed?
- 70 Where does the superior Thoracic terminate?
- 71 Where is the Acromial Thoracic distributed?
- 72 Where does the Acromial Thoracic terminate?
- 73 Where is the inferior Thoracic Branch distributed?
- 74 Where does the inferior Thoracic terminate?
- 75 What does the inferior Thoracic also supply?
- 76 Where does the Subscapular Branch arise?
- 77 Where is the Subscapular Branch distributed?
- 78 What does this Branch supply in addition to the preceding?
- 79 Where does the Subscapular Branch terminate?
- 80 Which is the largest Branch of the Circumflex Arteries?
- 81 Where is the posterior Circumflex distributed?
- 82 Where does the posterior Circumflex terminate?
- 83 Where is the anterior Circumflex distributed?
- 84 Where does the anterior Circumflex terminate?
- 85 What becomes of the inferior Acromial Branch?
- 86 Where is the Axillary Thoracic distributed?

BRACHIAL ARTERY.

- 87 How many Brachial Arteries are there?
- 88 How does the Brachial Artery commence and terminate?
- 89 What is its direction?
- 90 What is in relation with it anteriorly?

- 91 What is in relation with it posteriorly?
- 92 What is in relation with it on the inner side?
- 93 What is in relation with it on the outer side?
- 94 Enumerate the Branches of the Brachial Artery.
- 95 From what part of the Artery does the superior Profunda arise?
- 96 With what Branch does the superior Profunda inosculate?
- 97 What Nerve accompanies this Artery to the Triceps?
- 98 What Branches does the superior Profunda give off?
- 99 Where is the inferior Profunda given off?
- 100 What Nerve accompanies this Artery into the space or Fossa between the Olecranon and inner Condyle?
- 101 With what Branch does this Artery inosculate?
- 102 Where is the Anastomotica Magna given off?
- 103 With what Branches does this Artery inosculate?
- 104 Where are the Muscular Branches distributed?
- 105 Where is the Nutritious Artery of the Humerus generally given off?

RADIAL ARTERY.

- 106 What is the Radial Artery?
- 107 What is its extent?
- 108 What is in relation with this Artery anteriorly?
- 109 What is in relation with this Artery posteriorly?
- 110 What is in relation with this Artery on its inner side?
- 111 What is in relation with this Artery on its outer side?
- 112 Between what Tendons is the Radial Artery situated at its lower half?
- 113 How are the Branches of the Radial Artery arranged?
- 114 Name the Branches of the Forearm.
- 115 How does the Radial Recurrent terminate?
- 116 Name the Branches of the Wrist.
- 117 How is the superficial Palmar Arch formed?
- 118 What Artery forms the Profundal or deep Palmar Arch?
- 119 Enumerate the Branches of the Profundal Palmar Arch.
- 120 How do the anterior Carpal terminate?
- 121 How do the posterior Carpal terminate?
- 122 How does the Metacarpal or first Dorsal Interosseous terminate?

- 123 What does it supply ?
- 124 What do the two Dorsales Pollicis supply ?
- 125 Name the Branches of the Hand.
- 126 Between what Muscles along its Metacarpal Bone is the Arteria Princeps Pollicis Artery situated ?

ULNAR ARTERY.

- 127 What is the Ulnar Artery ?
- 128 Which is the largest terminal division of the Brachial Artery ?
- 129 What is the course of the Ulnar Artery ?
- 130 What is in relation with the Ulnar Artery anteriorly ?
- 131 What is in relation with the Ulnar Artery posteriorly ?
- 132 What is in relation with the Ulnar Artery on its inner side ?
- 133 What is in relation with the Ulnar Artery on its outer side ?
- 134 What Veins accompany the Ulnar Artery in its course ?
- 135 What Nerve is in relation with the Ulnar Artery at its origin ?
- 136 How are the Branches of the Ulnar Artery arranged ?
- 137 Name the Branches of the Forearm.
- 138 How does the anterior Ulnar Recurrent Branch terminate ?
- 139 How does the posterior Ulnar Recurrent terminate ?
- 140 What does the common Interosseous Branch give off ?
- 141 How does the anterior Interosseous terminate ?
- 142 Does the anterior Interosseous give off other Branches ?
- 143 How does the posterior Interosseous Branch terminate ?
- 144 Does the posterior Interosseous give off any particular Branch ?
- 145 Name the Branches of the Wrist and Hand.
- 146 How do the anterior and posterior Carpal Branches terminate.
- 147 How many Digital Branches are there ?
- 148 What does the first or smallest Digital Branch supply ?
- 149 What does the second Branch supply ?
- 150 What does the third Branch supply ?
- 151 What does the fourth Branch supply ?

- 152 What supplies the Radial side of the Index Finger and Thumb?
- 153 What Bone of the Carpus is in close relation with the Ulnar Artery?

SECTION XXXIV.—THORACIC ARTERIES.

THORACIC AORTA.

- 1 Enumerate the Arteries arising from the superior or Thoracic portion of the descending Aorta.
- 2 Where do the Bronchial Arteries arise?
- 3 What are the Bronchial Arteries?
- 4 What is their number?
- 5 What do they supply?
- 6 What is the number and origin of the Œsophageal Arteries?
- 7 What do they supply and communicate with?
- 8 Where do the Intercostal Arteries arise?
- 9 Which Intercostals are the longest?
- 10 Why are the right the longest?
- 11 How do the Aortic Intercostal Arteries terminate?
- 12 Whence are the first two Intercostal spaces supplied?

SECTION XXXV.—ABDOMINAL AORTA.

- 1 Enumerate the Arteries arising from the inferior or Abdominal portion of the descending Aorta.
- 2 Where does the Celiac Axis arise?
- 3 Name the Primary Branches of the Cœliac Axis.
- 4 Which is the least of these Branches?
- 5 What is the course of the Coronary Artery?
- 6 Name the small Branches which the Coronary Artery gives off.
- 7 What is the course and distribution of the Hepatic Artery?
- 8 Enumerate the Branches of the Hepatic Artery.
- 9 How does the Pyloric Branch terminate?
- 10 What Branches does the right Gastro-epiploic give off?
- 11 How does the right Gastro-epiploic terminate?
- 12 How does the superior Pancreatico-duodenal terminate?
- 13 What Artery does the right Hepatic Branch supply to the Gall-bladder?

- 14 What part of the right Gastro-epiploic Artery is sometimes called the Gastro-duodenal?
- 15 Which is the largest of the three divisional Branches of the Coeliac Axis?
- 16 What is the course of the Splenic Artery?
- 17 How does the Splenic Artery terminate?
- 18 Enumerate the Branches of the Splenic Artery.
- 19 Where are the Pancreatic Branches distributed?
- 20 How does the left Gastro-epiploic Branch terminate?
- 21 What is the number and termination of the Vasa Brevia vel Rami Gastrici?
- 22 Name the Viscus in the Abdomen which receives the largest supply of Blood.

SUPERIOR MESENTERIC ARTERY.

- 23 Where does the superior Mesenteric Artery arise?
- 24 What is the course of the superior Mesenteric Artery?
- 25 Enumerate the Branches of the superior Mesenteric Artery.
- 26 Where do the Intestinal Branches arise and terminate?
- 27 Name the Branches which supply the large Intestine?
- 28 What is the origin and distribution of the Ramus Iliocolicus?
- 29 How does this Branch terminate?
- 30 Where does the Colicus Dexter arise?
- 31 Where are its Branches distributed?
- 32 Where does the Colicus Medius arise?
- 33 Where are its Branches distributed?

INFERIOR MESENTERIC ARTERY.

- 34 Where does the inferior Mesenteric Artery arise?
- 35 What is its course and termination?
- 36 Where is the left Colic Branch distributed?
- 37 Where is the Sigmoid Branch distributed?
- 38 Where is the superior Hæmorrhoidal Branch distributed?
- 39 With what Vessels does the superior Hæmorrhoidal Branch inosculate?

RENAL ARTERIES.

- 40 Where do the Renal or Emulgent Arteries arise?
- 41 What is their course?

- 42 Which is the longest Artery?
- 43 Why?
- 44 Which is the most superior?
- 45 How do the Renal Arteries terminate?

SUPRA-RENAL ARTERIES.

- 46 Where do the Capsular Arteries arise?
- 47 Where do they terminate?

SPERMATIC ARTERIES.

- 48 Where do the two Spermatic Arteries arise?
- 49 What is the course and distribution of the Spermatic Arteries?
- 50 Where are the Spermatic Arteries (which are derived from the Ovarian Arteries) in the Female distributed?
- 51 How do they terminate?
- 52 Enumerate the second division of Abdominal Arteries.
- 53 Where do the Phrenic Arteries arise?
- 54 What is their course?
- 55 Where does the internal Branch terminate?
- 56 Where does the external Branch terminate?
- 57 What other Branches do the Phrenic inosculate with?
- 58 Where are the Phrenic Arteries distributed?
- 59 Where do the Lumbar Arteries arise?
- 60 How do they terminate?
- 61 Where are the Dorsal Branches distributed?
- 62 Between what processes do the Dorsal Branches pass through?
- 63 What Branch does the Dorsal Branch give off to the Spinal Cord and Canal?
- 64 What do the Abdominal Branches supply?
- 65 How do these Branches terminate?
- 66 Where does the middle Sacral Artery arise?
- 67 What is its course?
- 68 Where are its Branches distributed?
- 69 Name the Branches of the Abdominal Aorta from above downwards which arise in pairs.
- 70 Name the Branches of the Abdominal Aorta which arise singly.

SECTION XXXVI.—PELVIC ARTERIES.

- 1 What Arteries proceed from the termination of the Aorta?
- 2 Where do the common Iliac Arteries arise from the Aorta?
- 3 What is the length of the common Iliac Arteries?
- 4 What is their course?
- 5 Which is the longest common Iliac Artery?
- 6 Why?
- 7 Are the relations of the two Arteries alike on both sides?
- 8 What is in relation with the right common Iliac anteriorly?
- 9 What is in relation with the right common Iliac posteriorly?
- 10 What is in relation with the left common Iliac Artery anteriorly?
- 11 What is in relation with the left common Iliac Artery posteriorly?

INTERNAL ILIAC ARTERY.

- 12 What is the Internal Iliac Artery?
- 13 What is the length of the internal Iliac Artery?
- 14 Is the internal or external Iliac Artery the largest in the Fœtus?
- 15 What is the extent of the internal Iliac Artery?
- 16 Enumerate the Branches which arise from the anterior division of the internal Iliac Artery.

UMBILICAL ARTERY.

- 17 What is the Umbilical Artery?
- 18 What is the course and termination of the Umbilical Artery of the Fœtus?
- 19 How are the Vesical Branches divided?
- 20 Where are the upper Vesical Branches distributed?
- 21 Where are the lower Vesical Branches distributed?
- 22 Where is the Ischiatic Artery distributed?
- 23 Through what Notch, and between what Muscles does the Ischiatic Artery escape from the Pelvis?
- 24 What Branches does the Ischiatic Artery give off external to the Pelvis?
- 25 What Muscles are supplied by the Ischiatic Artery internal to the Pelvis?

- 26 Where is the Pudic Artery distributed?
- 27 What is the course and distribution of the Pudic Artery?
- 28 Enumerate the Branches of the Pudic Artery within the Pelvis.
- 29 Is the Branch to the Rectum; the middle Hæmorrhoidal generally derived from the internal Iliac Artery?
- 30 Where is the middle Hæmorrhoidal distributed?
- 31 How does the middle Hæmorrhoidal terminate?
- 32 Enumerate the Branches of the Pudic Artery external to the Pelvis?
- 33 Where is the external or inferior Hæmorrhoidal Branch distributed?
- 34 How does the external Hæmorrhoidal Branch terminate?
- 35 Where is the superficial Perinæal Branch distributed?
- 36 How does the superficial Perinæal Branch terminate?
- 37 Where is the transverse Perinæal Branch distributed?
- 38 How does the transverse Perinæal Branch terminate?
- 39 Where is the Artery of the Bulb distributed?
- 40 Where is the Arteria Corporis Cavernosi distributed?
- 41 What is the Dorsal Artery of the Penis?
- 42 Where does the Arteria Dorsalis Penis terminate?
- 43 Enumerate the Branches which arise from the posterior division or Trunk of the internal Iliac Artery.
- 44 Where does the Obturator Artery escape from the Pelvis?
- 45 Where is the internal Branch distributed?
- 46 Where is the external Branch distributed?
- 47 How does the Ilio-lumbar Branch terminate?
- 48 What does the Lumbar Branch supply?
- 49 How does this Branch terminate?
- 50 Is any particular offset given off from this Branch?
- 51 What does this small Branch pass through?
- 52 What does the transverse or Iliac Branch supply?
- 53 How does this Branch terminate?
- 54 How many Lateral Sacral Arteries are there?
- 55 What do these Arteries supply?
- 56 How do they terminate?
- 57 Is any Offset supplied from the lateral Sacral Artery?
- 58 Name the largest Branch of the internal Iliac Artery.

- 59 What is the Gluteal Artery?
- 60 Where does the Gluteal Artery pass from the Pelvis?
- 61 Enumerate its principal Branches.
- 62 Where is the superficial Branch distributed?
- 63 What does the deep Branch supply?
- 64 How does the superior division of the deep Branch terminate?
- 65 How does the inferior division of the deep Branch terminate?

EXTERNAL ILIAC ARTERY.

- 66 What is the external Iliac Artery?
- 67 Where is this Artery situated?
- 68 What is its direction and extent?
- 69 What is in relation with this Artery anteriorly?
- 70 What Vein is in relation with this Artery posteriorly?
- 71 What is in relation with this Artery on its outer side?
- 72 What is in relation with this Artery on its inner side?
- 73 Enumerate the Branches of the external Iliac Artery.
- 74 Where does the Epigastric Artery arise?
- 75 What is its direction?
- 76 What is in relation with the Epigastric Artery externally?
- 77 Name the chief Branch of the Epigastric Artery.
- 78 Where is the Cremasteric Branch distributed?
- 79 How does it terminate?
- 80 Are other Branches given off from the Epigastric Artery?
- 81 Name the Artery which may be accidentally wounded in the operation for Strangulated Hernia, whether oblique or direct.
- 82 Where does the Circumflex Iliac Artery arise?
- 83 What is its direction?
- 84 Name the Arteries which inosculate with the Circumflex Iliac.

SECTION XXXVII.—ARTERIES OF THE LOWER EXTREMITIES.

FEMORAL ARTERY.

- 1 What is the Femoral Artery?
- 2 What is its extent?
- 3 What is its position in this extent?

- 4 What is in relation with the Femoral Artery anteriorly its upper third?
- 5 What is in relation with the Femoral Artery anteriorly in the lower two-thirds?
- 6 What is in relation with the Femoral Artery on its inner side?
- 7 What is in relation with the Femoral Artery on its outer side?
- 8 What is in relation with the Femoral Artery posteriorly?
- 9 Where does the Femoral Artery give off its chief Branches?
- 10 Enumerate the Branches of the Femoral Artery.
- 11 Where is the superficial Epigastric distributed?
- 12 How does it terminate?
- 13 Where is the superficial Circumflex Iliac distributed?
- 14 How does the superficial Circumflex Iliac terminate?
- 15 How many external Pudic Branches are there on each side?
- 16 Where is the superior Branch distributed?
- 17 Where is the inferior Branch distributed?
- 18 Where are these Branches distributed in the Female?
- 19 Name the largest Branch given off from the Femoral Artery.
- 20 What is the Profunda Artery?
- 21 Where does the Profunda Artery arise?
- 22 What is its course?
- 23 What is in relation with the Profunda Artery anteriorly?
- 24 What is in relation with the Profunda Artery posteriorly?
- 25 Enumerate the Branches of the Profunda Artery.
- 26 Where is the external Circumflex distributed?
- 27 How does the external Circumflex terminate?
- 28 How does the ascending terminate?
- 29 How does the transverse or middle terminate?
- 30 How does the descending terminate?
- 31 Where is the internal Circumflex distributed?
- 32 How does it terminate?
- 33 How many Perforating Branches are there?
- 34 Where are these Branches distributed?
- 35 How does the superior Perforating Branch terminate?

- 36 How does the middle Branch terminate?
- 37 How does the inferior Branch terminate?
- 38 Which of the three Perforating Branches supplies a Nutrient Branch to the Femur?
- 39 How is the indirect or collateral circulation of the lower extremity carried on after a ligature on the Femoral Artery?
- 40 Where does the Anastomotica Magna arise?
- 41 How does it terminate?
- 42 Where is the superficial Branch distributed?
- 43 How does the superficial Branch terminate?
- 44 Where is the deep Branch distributed?
- 45 How does the deep Branch terminate?

POPLITEAL ARTERY.

- 46 What is the Popliteal Artery?
- 47 What is its course? *+ tab*
- 48 What is in relation with the Popliteal Artery on its inner side?
- 49 What is in relation with it on its outer side?
- 50 What is in relation with it superficially?
- 51 What is in relation with it more deeply?
- 52 Enumerate the Branches of the Popliteal Artery.
- 53 Where are the superior Articular Branches distributed?
- 54 How does the superior external Branch terminate?
- 55 How does the superior internal Branch terminate?
- 56 Where are the inferior Articular Branches distributed?
- 57 How does the inferior external Branch terminate?
- 58 How does the inferior internal Branch terminate?
- 59 How many Azygos Articular Branches are there?
- 60 Where are the Azygos Branches distributed?
- 61 Are there other Branches given off from the Popliteal?

ANTERIOR TIBIAL ARTERY.

- 62 What is the extent of the anterior Tibial Artery?
- 63 What is the course of the anterior Tibial Artery?
- 64 What is in relation with the anterior Tibial Artery anteriorly?
- 65 What is in relation with the anterior Tibial Artery posteriorly?

- 66 What is in relation with the anterior Tibial Artery on its inner side?
- 67 What is in relation with the anterior Tibial Artery on its outer side?
- 68 Enumerate the Branches of the anterior Tibial Artery.
- 69 Where does the Recurrent Branch arise?
- 70 Where is the Recurrent Branch distributed?
- 71 How does the Recurrent terminate?
- 72 Where are the Muscular Branches distributed?
- 73 How are the Malleolar Branches divided?
- 74 Where are the Malleolar Branches distributed?
- 75 How do the external Malleolar Branches terminate?
- 76 How do the internal Malleolar Branches terminate?

DORSAL ARTERY.

- 77 What is the Dorsal Artery?
- 78 What is the extent of the Dorsal Artery?
- 79 What is in relation with this Artery anteriorly?
- 80 What is in relation with this Artery posteriorly?
- 81 What is in relation with this Artery on its inner side?
- 82 What is in relation with this Artery on its outer side?
- 83 Enumerate the chief Branches of the Dorsal Artery.
- 84 How does the Tarsal Branch terminate?
- 85 What is the course of the Metatarsal Branch?
- 86 How does it terminate?
- 87 Where do the Interosseous Branches arise?
- 88 Where are the three Interosseous Branches distributed?
- 89 Where do these Interosseous Branches terminate?
- 90 How do the Interosseous Branches communicate with the deep Branches in the Sole of the Foot?
- 91 What Branch does the Dorsal Artery give off as soon as it has reached the base of the first Metatarsal Bone?
- 92 Where is this Branch distributed?
- 93 What name is sometimes given to the preceding Branch which passes into the Sole of the Foot, between the two Heads of the first Dorsal Interosseous Muscle, and joins the Plantar Arch?

POSTERIOR TIBIAL ARTERY.

- 94 What is the extent and termination of the posterior Tibial Artery?

- 95 What is its course?
- 96 What is in relation with this Artery anteriorly?
- 97 What is in relation with this Artery posteriorly?
- 98 What is in relation with this Artery on either side?
- 99 Enumerate the Branches of the posterior Tibial Artery.
- 100 Where does the Peroneal or Fibular Artery arise?
- 101 What is its course?
- 102 Is this division of the Peroneal Artery adopted by all Anatomists?
- 103 How does the anterior Peroneal Artery reach the fore part of the Leg?
- 104 Where is the anterior Peroneal Artery distributed?
- 105 How does it terminate?
- 106 What becomes of the posterior Peroneal Artery?
- 107 Where are the Muscular Branches distributed?
- 108 How does the Nutritious Artery of the Tibia enter its Canal?
- 109 Through what Muscle does the Nutritious Branch of the Peroneal Artery pass, previously to entering its Canal in the Fibula?

PLANTAR ARTERIES.

- 110 What are the Plantar Arteries?
- 111 How are they divided?
- 112 Which is the largest?
- 113 What is the course of the external Plantar Artery?
- 114 Which portion of the external Plantar forms the Plantar Arch?
- 115 Between what Muscles is the Plantar Arch situated?
- 116 Enumerate the Branches of the external Plantar Arch.
- 117 How many Digital Branches are there?
- 118 Where is the first Digital Branch distributed?
- 119 Where are the other three Branches distributed?
- 120 Where do the anterior Perforating Branches arise?
- 121 How do these anterior Perforating Branches terminate?
- 122 Where do the three Perforating Branches arise?
- 123 What is their course?
- 124 How do they terminate?

- 125 What is the course and distribution of the internal Plantar Artery?
- 126 How does the internal Plantar Artery terminate?

SECTION XXXVIII.—VEINS IN GENERAL.

- 1 What are the Veins?
- 2 How do you distinguish Veins from Arteries?
- 3 Where do the Veins commence?
- 4 How are they distributed?
- 5 Are the Veins or Arteries most numerous?
- 6 What is the structure of Veins?
- 7 What is there peculiar in the internal Coat?
- 8 What is the use of these Valves?
- 9 How are the Valves disposed?
- 10 Are these Valves present throughout the great Cavities?
- 11 Are some of the terminations of the large Veins provided with Valves?
- 12 How many principal Venous Trunks are there?
- 13 Enumerate them.

SECTION XXXIX.—VEINS OF THE HEAD AND NECK.

- 1 How are the Veins of the Body arranged?
- 2 How are the Veins of the Head arranged?
- 3 Enumerate the Veins on the exterior of the Head.
- 4 Where does the Facial Vein commence and terminate?
- 5 How is the Angular Vein formed?
- 6 Name some of the Branches which the Facial Vein receives in its course to the internal Jugular Vein.
- 7 How does the Temporal Vein commence?
- 8 How does the Temporal Vein terminate?
- 9 How is the internal Maxillary Vein formed?
- 10 How does the internal Maxillary Vein terminate?
- 11 What is the name given to the Trunk formed by the union of these two Veins?
- 12 What does the union of the Temporal and internal Maxillary Veins form in the Parotid Gland?
- 13 What Branches does the Temporo-maxillary Vein receive in its course?

- 14 Where does the posterior Auricular Vein commence and terminate?
- 15 What Branches does the posterior Auricular Vein receive in its course?
- 16 Where does the Occipital Vein commence?
- 17 Where does the Occipital Vein terminate?
- 18 What does the Occipital Vein communicate with?
- 19 Where do the Veins of the Diploe terminate?

CEREBRAL AND CEREBELLAR VEINS.

- 20 How are the Veins which return the Blood from the Brain arranged?
- 21 Where are the superficial Cerebral Veins situated?
- 22 Are they confined to the Grooves?
- 23 Where do they terminate?
- 24 Where do the Veins at the sides and under surface of the Cerebrum terminate?
- 25 Where do the deep-seated Veins commence?
- 26 How are these two Veins formed?
- 27 Where do the Venæ Galeni terminate?
- 28 How are the Veins of the Cerebellum arranged?
- 29 Where do those on the upper surface terminate?
- 30 Where do the deep-seated terminate?

CEREBRAL SINUSES.

- 31 How are the Cerebral Sinuses formed?
- 32 How are the Cerebral Sinuses arranged?
- 33 Enumerate the superficial Sinuses.
- 34 What is the extent of the superior Longitudinal Sinus?
- 35 What is the form of the superior Longitudinal Sinus?
- 36 What Veins open into this Sinus?
- 37 What is the name of the transverse Fibrous Cords which are stretched across its Cavity?
- 38 What is the name of the little Granular Masses which are sometimes present in this Sinus?
- 39 Where is the inferior Longitudinal Sinus situated?
- 40 What is its extent?
- 41 Where is the Straight Sinus situated?
- 42 What is the form of the Straight Sinus?
- 43 What Veins open into this Sinus?

- 44 Where is the Occipital Sinus situated?
- 45 What is its extent?
- 46 Is this Sinus occasionally double?
- 47 What is the extent of the two Lateral Sinuses?
- 48 What Veins open into this Sinus on either side?
- 49 Name the Sinuses which communicate with the Lateral Sinuses.
- 50 Enumerate the Sinuses situated at the Base of the Skull from before backwards.
- 51 Where is the Circular Sinus situated?
- 52 What does it communicate with?
- 53 Where is the Cavernous Sinus situated?
- 54 What Veins open into this Sinus on either side?
- 55 How does it communicate with its fellow of the opposite side?
- 56 How is the Blood of the Cavernous Sinus conveyed to the Lateral Sinus?
- 57 What Artery is in relation with the internal Wall of each Cavernous Sinus?
- 58 What Nerves are in relation with the external Wall of each Cavernous Sinus?
- 59 What is the extent of this Sinus?
- 60 What is the internal aspect of the Cavernous Sinuses?
- 61 Where is the superior Petrosal Sinus situated?
- 62 What does this Sinus communicate with?
- 63 What Veins open into this Sinus?
- 64 Where is the inferior Petrosal Sinus situated?
- 65 Where does this Sinus commence and terminate?
- 66 Through what Foramen does a small Vein pass from the exterior of the Skull to open into this Sinus?
- 67 What is the situation of the Basilar or Transverse Sinus?

SECTION XL.—VEINS OF THE NECK.

- 1 How is the external Jugular Vein formed?
- 2 What is the course and termination of the external Jugular Vein?
- 3 Name some of the Venous Branches which it receives.
- 4 How is the anterior Jugular Vein formed?
- 5 Where does this Vein terminate?

- 6 How does the anterior Jugular Vein communicate with its fellow of the opposite side?
- 7 How is the internal Jugular Vein formed?
- 8 What is its extent?
- 9 Where does this Vein terminate?
- 10 What does the union of the internal Jugular and Subclavian Veins form?
- 11 Name some of the Venous Branches which the internal Jugular receives in its course.
- 12 How is the Vertebral Vein formed, and what is its course and termination?
- 13 Name some of the Venous Branches which the Vertebral Vein receives in its course.

SECTION XLI.—VEINS OF THE TRUNK.

- 1 Enumerate the chief Veins of the Trunk.

VENA CAVA SUPERIOR.

- 2 How is the superior or descending Vena Cava formed?
- 3 What is its use?
- 4 What is its extent and termination?
- 5 What is in relation with the superior Cava anteriorly?
- 6 What is in relation with the superior Cava posteriorly?
- 7 What is in relation with the superior Cava on its inner side?
- 8 What is in relation with the superior Cava on its outer side?
- 9 What Veins does the superior Cava receive?
- 10 How are the two Venæ Innominatæ formed?
- 11 What is the extent of the Venæ Innominatæ?
- 12 What is the direction and length of the right Vena Innominata?
- 13 What is the direction and length of the left Vena Innominata?
- 14 What large vessels are in relation with the left Vena Innominata?
- 15 Enumerate the Venous Branches which open into the Vena Innominata on either side.
- 16 Does the left Vena Innominata receive other Branches in addition to those just named?

- 17 Where are the Valves situated in the two Venæ In-nominatæ?

VENA CAVA INFERIOR.

- 18 How is the Inferior Vena Cava formed?
 19 What is its use?
 20 What is its extent and termination?
 21 Enumerate the Venous Branches which it receives in its course.
 22 Do the Lumbar and middle Sacral Veins always enter the inferior Cava?
 23 Do not the inferior Phrenic Veins open into the inferior Cava?
 24 Where does the right Spermatic Vein open into the inferior Cava?
 25 Where does the left Spermatic Vein open?
 26 What Veins in the Female correspond to the Spermatic in the Male?
 27 Which Renal Vein is the longest?
 28 Why?
 29 Where do the Capsular Veins open?
 30 Where do the Hepatic Veins open?
 31 How are the Hepatic Veins formed?

SPINAL VEINS.

- 32 How are the Veins of the Spinal Cord arranged?
 33 Where do the Spinal Veins open?
 34 How are the Intra-spinal Veins divided?

THE AZYGOS VEINS.

- 35 How many Azygos Veins are there?
 36 How is the right Azygos Vein formed?
 37 What is its course and termination?
 38 What Vessels accompany the right Azygos Vein through the Aortic opening?
 39 Enumerate the Venous Branches which it receives in its course.
 40 How is the Vena Azygos Minor vel inferior formed?
 41 What is its course and termination?
 42 Enumerate the Venous Branches which it receives in its course.

- 43 How is the left upper Vena Azygos formed when it exists?
 44 How does this Vein terminate?

PULMONARY VEINS.

- 45 What is the use of the Pulmonary Veins?
 46 Where do they commence?
 47 What is in relation with the right Pulmonary Veins in their course to the left Auricle?
 48 What is in relation with the left Pulmonary Veins in their course to the left Auricle?
 49 Do the right or left Pulmonary Veins pierce the Pericardium?
 50 What relation do the Branches of the Pulmonary Veins bear to the Bronchial Tubes in the Lungs?
 51 What relation do the Bronchial Tubes bear to the Pulmonary Artery in the Lungs?
 52 How are the three vessels arranged at the Root of the Lungs?
 53 Are the Pulmonary Veins provided with Valves?

CARDIAC VEINS.

- 54 Enumerate the Veins of the Heart.
 55 Where does the Coronary Vein arise?
 56 Where does this Vein terminate?
 57 Where does the Coronary Sinus open?
 58 Where do the anterior and posterior Cardiac Veins open?
 59 Where does the anterior Cardiac Vein receive its Blood?
 60 Where does the posterior Cardiac Vein receive its Blood?
 61 Where are the Veins of Thebesius situated?
 62 Where do they open?

PORTAL VEIN.

- 63 How is the Vena Portæ formed?
 64 What is the course and termination of the Vena Portæ?
 65 What Vessels are in relation with the Vena Portæ anteriorly?
 66 What Veins does it receive in its course?
 67 Name the Veins by which the Blood is returned from the Chylo-poietic Viscera, (viz. the Alimentary Canal, Splcen and Pancreas) is conveyed to the Liver by the Vena Portæ.

- 68 How is the superior Mesenteric Vein formed?
- 69 How is the inferior Mesenteric Vein formed?
- 70 How is the Splenic Vein formed?
- 71 What Veins does the Splenic receive, ere it unites with the superior Mesenteric to form the Portal Vein?
- 72 Where does the Coronary Vein terminate?
- 73 At which extremity of the Stomach does the Coronary Vein terminate?
- 74 How are the primary Branches of the Portal Vein formed?

SECTION XLII.—VEINS OF THE UPPER EXTREMITY.

- 1 How are the Veins of the Upper Extremity divided?
- 2 Where are the Superficial Veins situated?
- 3 Enumerate the Superficial Veins.
- 4 How is the Radial Vein formed?
- 5 What is its course and termination?
- 6 Is the Cephalic Vein chiefly derived from the Radial?
- 7 How many Ulnar Veins are there?
- 8 How is the anterior Ulnar Vein formed?
- 9 What is its course and termination?
- 10 How is the posterior Ulnar Vein formed?
- 11 What is its course and termination?
- 12 How is the Median Vein formed?
- 13 What is its course and termination?
- 14 Does the Median Vein receive any Branch at its bifurcation?
- 15 What is the course and termination of the Median Basilic Vein?
- 16 What is the course and termination of the Median Cephalic Vein?
- 17 How is the Basilic Vein formed?
- 18 What is its course and termination?
- 19 What Vessel is in relation with the Basilic Vein posteriorly?
- 20 How is the Cephalic Vein formed?
- 21 What is its course and termination?
- 22 Name the Vein of the Forearm which is generally selected for the operation of Venesection.

DEEP-SEATED VEINS OF THE UPPER EXTREMITY.

- 23 Enumerate the Deep-seated Veins.
- 24 How are the two Venæ Comites formed?
- 25 What is their course?
- 26 Where do the anterior and posterior Interosseous Veins terminate?

AXILLARY VEINS.

- 27 How is the Axillary Vein formed?
- 28 Does it receive Venous Branches in its course?
- 29 Where does it terminate?

SUBCLAVIAN VEIN.

- 30 How is the Subclavian Vein formed?
- 31 What is its extent and termination?
- 32 What Vein unites with it behind this Articulation?
- 33 What does the union of these two Veins (the Subclavian and internal Jugular) form?
- 34 What do the two Venæ Innominatæ form?
- 35 What Veins open into the Subclavian in its course?
- 36 What Vessel opens into the angle of union of the right Subclavian and right internal Jugular Veins?
- 37 What Vessel opens into the angle of union of these two Veins on the left side?
- 38 What Muscle separates the Subclavian Vein from its accompanying Artery?
- 39 What Nerves pass between the Subclavian Vein and its Artery?

SECTION XLIII.—VEINS OF THE LOWER EXTREMITY.

- 1 How are the Veins of the Lower Extremity divided?
- 2 Enumerate the Superficial Veins.
- 3 Which is the longest of these two Veins?
- 4 What is the situation and extent of the internal Saphenous Vein?
- 5 How is the internal Saphenous Vein formed?
- 6 What is its course and termination?
- 7 What Veins does the internal Saphenous receive in its course?

- 8 How is the External Saphenous Vein formed?
- 9 What is its course and termination?
- 10 Does the external Saphenous Vein receive any Branches in its course?
- 11 What Nerve accompanies the external Saphenous Vein in its course?

DEEP-SEATED VEINS OF THE LOWER EXTREMITY.

POPLITEAL VEIN.

- 12 How is the Popliteal Vein formed?
- 13 What is the course and termination of the Popliteal Vein?
- 14 Does it receive any Branches in its course?
- 15 What relation is the Popliteal Vein to its accompanying Artery at the Aperture in the Adductor Magnus?

FEMORAL VEIN.

- 16 How is the Femoral Vein formed?
- 17 What is its extent and termination?
- 18 What relation is the Vein to the Artery on reaching Poupart's Ligament?
- 19 What relation is the Vein to the Artery in the lower part of its course?
- 20 Does it receive any Branches in its course?
- 21 How many Valves is the Femoral Vein provided with?

PROFUNDA VEIN.

- 22 How is the Profunda Vein formed?
- 23 Where does this Vein open?

EXTERNAL ILIAC VEIN.

- 24 How is the external Iliac Vein formed?
- 25 Where does this Vein terminate?
- 26 Does this Vein receive any Branches in its course?

INTERNAL ILIAC VEIN.

- 27 How is the Internal Iliac Vein formed?
- 28 What is its position and termination?
- 29 Does it receive any Branches in its course?
- 30 Into what Vein do the Veins of the Corpora Cavernosa and Corpus Spongiosum open?

COMMON ILIAC VEIN.

- 31 How is the common Iliac Vein formed?
- 32 What is its extent and termination?

- 33 Which is the longest common Iliac Vein?
- 34 Does the common Iliac Vein receive any Branches in its course?
- 35 What additional Venous Branch does the left common Iliac Vein receive?

SECTION XLIV.—ABSORBENT SYSTEM.

- 1 What are the Absorbents?
- 2 What is the appearance of these Vessels?
- 3 What is their distribution?
- 4 What is the name given to these Nodular bodies?
- 5 Into how many sets of Vessels are the Absorbents divided?

LACTEALS.

- 6 What are the Lacteals?
- 7 What difference is there between the Lacteals and Lymphatics?
- 8 Where are the Lacteals situated?
- 9 In transversing the Mesentery, what do these Lactiferous or Chyliferous Vessels pass through ere they arrive at the Thoracic Duct?

LYMPHATICS.

- 10 How do the Lymphatics arise?
- 11 How do the Lymphatics terminate?
- 12 What are the names of these two Trunks?
- 13 How are the Lymphatic Vessels divided?

THORACIC DUCT.

- 14 What is the Thoracic Duct?
- 15 Where does the Thoracic Duct commence and terminate?
- 16 What is its length and extent?
- 17 Where are its Valves most numerous?
- 18 Have cases occurred in which this Duct has opened into the Vena Azygos?
- 19 Is the Duct always single throughout its extent?
- 20 How is its Orifice protected from the admission of the Venous Blood?
- 21 What Branches does it receive in its course?
- 22 What relation is the Receptaculum Chyli with the Aorta?

RIGHT LYMPHATIC DUCT.

- 23 How is the right Lymphatic Duct formed?

- 24 What is its length and termination?
- 25 How is its Orifice protected from the admission of the Venous Blood?

LYMPHATIC GLANDS.

- 26 What are the Lymphatic Glands?
- 27 Where are these Glands situated?
- 28 What is the name given to the Lymphatic Vessels which enter these Glands?
- 29 What is the name given to the Lymphatic Vessels which issue from these Glands?
- 30 Which are the most numerous?
- 31 What is the structure of these Glands?
- 32 What is the structure of the Lymphatics?
- 33 What does the internal Coat form?
- 34 How are the Lymphatic Vessels arranged?

SECTION XLV.—LYMPHATICS OF THE HEAD
AND NECK.

- 1 How are the Lymphatic Vessels of the Head and Neck divided?
- 2 Enumerate the principal superficial Lymphatics.
- 3 Enumerate the deep Lymphatics.
- 4 Enumerate the superficial Lymphatic Glands of the Head and Face.
- 5 Where do the Lymphatic Vessels of the Neck terminate?
- 6 Where are the superficial Cervical Glands situated?
- 7 Where are the deep Cervical Glands situated?

SECTION XLVI.—LYMPHATICS OF THE THORAX,
ABDOMEN, AND PELVIS, OR TRUNK.

- 1 Are the Parietes and Viscera of the Thorax supplied throughout with Lymphatics?
- 2 How are the Lymphatics of the Lungs divided?
- 3 What is the course of the Lymphatics of the Heart?
- 4 Where do the Lymphatics of the Thorax terminate?
- 5 Enumerate some of the Lymphatic Glands of the Thorax.
- 6 Are the Parietes of the Abdomen and its Viscera supplied throughout with Lymphatics?
- 7 Where do the Capsular Lymphatics terminate?

- 8 Where do the Lymphatics of the lower part of the Abdomen open?
- 9 Where do the Vasa Efferentia of the Inguinal Glands enter the Abdomen?
- 10 Where do the Lymphatics of the small Intestine and part of the large Intestine (viz., Cæcum, Aseending and transverse Colon) open?
- 11 Where do the Lymphatics of the descending Colon and Rectum open?
- 12 Where do the Vasa Efferentia of the Lymphatic Glands of the Pelvis generally open?
- 13 What other Lymphatics open into the Lumbar Glands?
- 14 What do the Lumbar Lymphatics form?

SECTION XLVII.—LYMPHATICS OF THE UPPER EXTREMITY.

- 1 How are the Lymphatics of the upper extremity divided?
- 2 Where are the superficial Lymphatics situated?
- 3 Where are the deep Lymphatics situated?
- 4 Where do the superficial Lymphatics open?
- 5 Where do the deep Lymphatics open?
- 6 Where do they ultimately terminate?
- 7 How are the Lymphatic Glands divided?
- 8 Where are the superficial Lymphatic Glands situated?
- 9 Where are the deep Glands situated?
- 10 Where are the Axillary Glands situated?
- 11 What do they receive?
- 12 What do their Efferent Ducts (Vasa Efferentia) form?

SECTION XLVIII.—LYMPHATICS OF THE LOWER EXTREMITY.

- 1 How are the Lymphatics of the lower extremity divided?
- 2 Where do the superficial Lymphatics commence?
- 3 What is the course of the deep-seated Lymphatics?
- 4 How are the Inguinal Glands divided?
- 5 What Lymphatics open into these two sets?
- 6 Enumerate some of the deep Lymphatic Glands.

SECTION XLIX.—THE NERVOUS SYSTEM.

1 How is the Nervous System divided?

THE BRAIN AND ITS COVERINGS.

- 2 What is the name given to the contents of the Cranium?
- 3 What is the Cerebrum?
- 4 What is the form of its upper and lower surfaces?
- 5 How are the Lobes of each Hemisphere divided?
- 6 What is the form and position of the anterior Lobe?
- 7 What Nerve lies near the inner margin of the anterior Lobe?
- 8 What is the position of the middle Lobe?
- 9 What supports the posterior Lobe?
- 10 What is the appearance of the upper surface of the Cerebrum?
- 11 What is the name of the Grooves or Depressions which separate these Convolution?
- 12 What is the Cerebral mass composed of?
- 13 What is the situation of the Cortical substance?
- 14 What is the colour and situation of the Medullary substance?
- 15 How are the Fibres of the Cerebrum arranged?
- 16 Where do the Diverging Fibres commence?
- 17 Name the three divisions of the Medulla Oblongata.
- 18 Where do the Converging Fibres commence?

BASE OF THE CEREBRUM.

- 19 Enumerate the parts at the base of the Brain from before backwards.
- 20 What is the Longitudinal Fissure?
- 21 What is situated on either side this Fissure, on the inner surface of each anterior Lobe?
- 22 What is the situation of the Optic Commissure?
- 23 What is the use of this Commissure?

FISSURE OF SYLVIIUS.

- 24 What does the Fissure of Sylvius divide? *Ant. from Middle lobe*
- 25 What Vessel is situated in this Fissure? *middle cerebral artery*
- 26 What is the direction of this Fissure? *outwards*
- 27 What is situated within the outer division of this Fissure?

- 28 What is the name of the angular portion of white substance at the inner extremity of the Fissure of Sylvius?
- 29 Why so called?
- 30 Where is the Tuber Cinereum situated?
- 31 What is the Infundibulum?
- 32 What does this process give attachment to below? *Pituitary*
- 33 What is the situation and use of the Pituitary Gland?
- 34 What does this body consist of?
- 35 What are the Corpora Albicantia (Pisiformia vel Mammillaria)?
- 36 What do these bodies form?
- 37 What is the posterior Perforated Spot?
- 38 What does this Spot assist to form?
- 39 What are the Peduncles of the Brain (Crura Cerebri)?
- 40 Name the parts situated within the Crura.
What Nerve arises from the inner side of each Crus Cerebri?

PONS VAROLII.

- 41 What is the Pons Varolii?
- 42 What Artery is lodged in the Groove on its anterior surface along the middle line?
- 43 What Nerves are in relation with the posterior surface of the Pons Varolii?
- 44 What constitutes the Commissure to the two Hemispheres of the Cerebellum?
- 45 What is the structure of the Pons Varolii?
- 46 What are the transverse Fibres continuous with?
- 47 What are the longitudinal Fibres continuous with?
- 48 What is the form and width of the Pons Varolii?

MEDULLA OBLONGATA.

- 49 What is the Medulla Oblongata?
- 50 What is its extent?
- 51 What is its form, length, breadth and thickness?
- 52 What divides the Medulla Oblongata into two halves?
- 53 What is the name given to each extremity of the Medulla Oblongata?
- 54 Which is the largest, and what is it united to?
- 55 What is the form of its anterior and posterior surfaces?

- 56 What is the anterior surface in relation with?
 57 What does the posterior or Dorsal surface form?
 58 What does each half of the Medulla Oblongata consist of?

ANTERIOR PYRAMID.

- 59 What is the situation of the anterior Pyramid?
 60 What separates the anterior Pyramids from each other?
 61 What connecting Medium exists between the two anterior Pyramids?
 62 What is the extent of the anterior Pyramid?
 63 What is situated on either side the anterior Pyramids?
 64 What separates the anterior Pyramid from the Olivary Body?
 65 What does a section of the Olivary Body present?
 66 What is the situation of the posterior Pyramid?

CORPORA RESTIFORMIA.

- 67 What are the Corpora Restiformia?
 68 What is the Restiform Body continuous with above and below?
 69 What do the diverging Fibres of the Corpora Restiformia form as they proceed to the Cerebrum and Cerebellum?
 70 Where are the Respiratory Nerves of Sir C. Bell situated?
 71 Enumerate the Respiratory Nerves of Sir C. Bell.

CORPUS CALLOSUM.

- 72 What is the name given to the converging Fibres of the Cerebrum and Cerebellum, whose offices are to connect their corresponding halves? *Commisural*
 73 What is the Corpus Callosum?
 74 Where is the Corpus Callosum situated?
 75 What does the under surface of the Corpus Callosum form?
 76 What is its extent from before backwards?
 77 How does it terminate anteriorly?
 78 How does it terminate posteriorly? *In the Fornix*
 79 What do you observe along the centre of the Corpus Callosum? *Raphe*

CENTRUM OVALE MAJUS ET MINUS.

- 80 What is the Centrum Ovale Minus?
 81 What is the Centrum Ovale Majus?

FORNIX.

- 82 What is the Fornix?
- 82 What does the Fornix assist to form?
- 84 How does the Fornix terminate anteriorly?
- 85 What name do the posterior Pillars or Crura of the Fornix assume in the lower part of the lateral Ventricles on either side?
- 86 What is the name of the thin Band of grey matter, situated beneath the Corpus Fimbriatum?
- 87 What bodies are continuous with the Fornix on either side?
- 88 What name is given to the Transverse Lines on the inferior surface of the Fornix?
- 89 What is the name of the Aperture through which the lateral Ventricles communicate with each other?

SEPTUM LUCIDUM.

- 90 What is the Septum Lucidum?
- 91 What does it consist of?
- 92 What do these Layers enclose?

COMMISSURES.

- 93 What does the anterior Commissure of the Brain connect?
- 94 What does the middle or Soft Commissure connect?
- 95 What does the posterior Commissure connect?
- 96 What is the name of the Aperture between the anterior and middle Commissures?
- 97 What is the name of the Passage which leads downwards and outwards from this Aperture to the Infundibulum?
- 98 What is the name of the Aperture between the middle and posterior Commissures?
- 99 What is the name of the Passage or Canal which leads backwards from this Aperture to the fourth Ventricle?

SECTION L.—VENTRICLES OF THE BRAIN, &c.

- 1 Enumerate the Ventricular Spaces of the Brain.
- 2 Where are the Lateral Ventricles situated?
- 3 What is their extent?
- 4 How is a Lateral Ventricle divided?
- 5 What is the form of the central Cavity?

- 6 What is the direction of the anterior Cornu?
- 7 What is the direction of the posterior Cornu?
- 8 What is the direction of the inferior or middle Cornu?
- 9 How is the central part of the Lateral Ventricle bounded above?
- 10 How is the central part of the Lateral Ventricle bounded internally?
- 11 How is the central part of the Lateral Ventricle bounded below?

CORPUS STRIATUM.

- 12 Where is the Corpus Striatum situated?
- 13 What is the form of the Corpus Striatum?
- 14 What is the colour of the Corpus Striatum externally?
- 15 Why called Corpus Striatum?
- 16 What form the superior Ganglia of the Brain?

TÆNIA SEMICIRCULARIS.

- 17 What is the Tænia Semicircularis?
- 18 What is this Fasciculus continuous with anteriorly?
- 19 What is this Fasciculus continuous with posteriorly?

OPTIC THALAMUS.

- 20 Where are the Optic Thalami situated?
- 21 What does the Optic Thalamus give origin to on either side?
- 22 How is the inner surface of each Thalamus, which are adjacent to each other, connected?
- 23 What do you observe on the posterior border of each Optic Thalamus?
- 24 Which is the largest?
- 25 What form the inferior Ganglia of the Brain?

HIPPOCAMPUS MAJOR.

- 26 What is the Hippocampus Major (Cornu Ammonis)?
- 27 What is its form?
- 29 What does its anterior extremity present?
- 29 What is the Pes Accessorius vel Eminentia Collateralis?

HIPPOCAMPUS MINOR.

- 30 What is the Hippocampus Minor?

TRANSVERSE FISSURE OF THE CEREBRUM.

- 31 Where is the transverse Fissure of the Cerebrum?

- 32 What is its extent?
 33 What Vascular Membrane passes through this slit into the Brain?
 34 What does the Pia Mater form here?

VELUM INTERPOSITUM.

- 35 What is the Velum Interpositum?
 36 What is its form and extent?
 37 What is it connected with on either side?
 38 What Vessels are situated in the central part of the Velum Interpositum? *Arteries & Veins*
 39 Where do these Veins open? *Into the Choroid Plexus*

CHOROID PLEXUS.

- 40 What is the Choroid Plexus?
 41 How does it communicate with the Choroid Plexus of the opposite Ventricle?

THIRD VENTRICLE.

- 42 Where is the third Ventricle situated?
 43 How is it bounded above?
 44 How is it bounded below?
 45 How is it bounded laterally?
 46 How is it bounded anteriorly?
 47 How is it bounded posteriorly?
 48 What Ventricles does the third Ventricle communicate with? *All Ventricles*
 49 How does the third Ventricle communicate with the lateral Ventricles? *By the Foramina of Monro*
 50 How does this Ventricle communicate with the fourth Ventricle? *By the great opening of the Aqueductum*
 51 How does this Ventricle communicate with the fifth Ventricle in the Adult? *Not at all*
 52 Where does this Ventricle communicate with the fifth Ventricle in the Foetus? *By the Foramen of Monro*

CORPORA QUADRAGEMINA.

- 53 What are the Corpora Quadragemina?
 54 What are these pairs respectively called?
 55 What does the Canal which runs through their base communicate with?
 56 What is situated on the anterior pair of these bodies?

PINEAL GLAND.

- 57 What is the Pineal Gland?
- 58 What does it contain?
- 59 How is it connected to the Optic Thalami?
- 60 What is situated below the Pineal Gland?

FOURTH VENTRICLE.

- 61 Where is the fourth Ventricle situated?
- 62 How is the roof of this Ventricle formed?
- 63 How are the sides of this Ventricle formed?
- 64 What do you observe within this Ventricle?
- 65 What is the Calamus Scriptorius?
- 66 Why called Calamus Scriptorius? *like a pen*
- 67 Does the Choroid Plexus in this Ventricle resemble that of the lateral Ventricles? *Yes*
- 68 How is this Plexus formed? *by the material*
- 69 Whence are the Vessels of this Plexus derived?
- 70 Where are the Lineæ Transversæ situated? *from the lateral ventricles*

FIFTH VENTRICLE.

- 71 Where is the fifth Ventricle situated?
- 72 In what part of the Septum is this Ventricle situated?

LINING MEMBRANE OF THE VENTRICLES.

- 73 What is the nature of the Lining Membrane of the Ventricles? *serous*
- 74 How does it communicate with the Arachnoid Membrane?

SECTION LI.—CEREBELLUM.

- 1 Where is the Cerebellum situated?
- 2 What is the width and general form of the Cerebellum?
- 3 How is the Cerebellum divided?
- 4 What is the appearance of the upper surface of the Cerebellum?
- 5 What is the form of the under surface of the Cerebellum?
- 6 What is the structure of the Cerebellum?
- 7 How may the arrangement of these two structures be best seen?
- 8 How are the Hemispheres separated from each other posteriorly?
- 9 How are these Hemispheres separated from each other on the upper and under surfaces?
- 10 What is the name of the projection on the upper surface?

- 11 Where is the superior Vermiform process situated?
- 12 What is the name of the projection on the under surface of the Cerebellum?
- 13 Enumerate the principal Lobes or Eminences which enter into the structure of the Vermiform processes.
- 14 How is the Cerebellum connected with the Cerebrum and Spinal Cord?
- 15 Name them.

PROCESSUS E CEREBELLO AD TESTES.

- 16 What are the Processus e Cerebello ad Testes?
- 17 Where do these Processes commence and terminate?
- 18 What is situated between these two Peduncles?
- 19 What do these two Processes form?

CORPORA RESTIFORMIA.

- 20 What are the Corpora Restiformia?
- 21 What do these two Medullary bodies unite?

CRURA CEREBELLI.

- 22 What are the Crura Cerebelli?
- 23 What do they form?
- 24 Where do the Fibres of these Crura commence?

SECTION LII.—COVERINGS OF THE BRAIN.

- 1 Name the Coverings of the Brain.
- 2 Which is the most external Membrane?

DURA MATER.

- 3 What is the Dura Mater?
- 4 What is the structure of the Dura Mater?
- 5 What is the appearance of the outer surface?
- 6 What is the appearance of the inner surface?
- 7 What are the Glandulæ Pacchioni?
- 8 Where are they situated?
- 9 Is the inner surface of the Skull sometimes indented with these bodies?
- 10 What are the Sinuses of the Dura Mater?
- 11 Enumerate the chief processes of the Dura Mater.
- 12 What is the extent of the Falx Cerebri?
- 13 What is the form of the Falx Cerebri?
- 14 What portions of the Brain does the Falx Cerebri separate?
- 15 Enumerate the Sinuses of the Falx Cerebri.

TENTORIUM CEREBELLI.

- 16 What is the Tentorium Cerebelli ?
- 17 What are its attachments ?
- 18 What Sinus is situated along its Centre ?
- 19 What Sinuses correspond to its attached edge ?
- 20 Which is the broadest part of the Tentorium ?
- 21 What portions of the Brain does the Tentorium separate ?
- 22 What is the form of the aperture left by the Tentorium anteriorly between the Cerebrum and the Cerebellum ?
- 23 What does this aperture or oval notch transmit ?

FALX CEREBELLI.

- 24 Where is the Falx Cerebelli situated ?
- 25 What is its extent ?
- 26 What portions of the Brain does the Falx Cerebelli separate ?
- 27 What is its form and direction ?
- 28 What is situated in its Base ?

ARTERIES AND NERVES OF THE DURA MATER.

- 29 How are the Arteries of the Dura Mater distinguished ?
- 30 Whence are the anterior Meningeal derived ?
- 31 What do they supply ?
- 32 Whence are the three middle Meningeal derived ?
- 33 What do they supply ?
- 34 Whence are the posterior Meningeal derived ?
- 35 What do they supply ?
- 36 Whence are the Nerves of the Dura Mater derived ?

PIA MATER.

- 37 What is the Pia Mater ?
- 38 Does the Pia Mater communicate with the interior of the Brain ?
- 39 What is the appearance of the Pia Mater ?
- 40 How is this Vascular net-work formed ?
- 41 How is the Brain supplied with nutrition ?
- 42 Whence are the Vessels of the Pia Mater derived ?
- 43 Whence are the Nerves of the Pia Mater derived ?

ARACHNOID MEMBRANE.

- 44 What is the Arachnoid Membrane ?
- 45 How is the Arachnoid divided ?

- 46 What does the external Layer line?
- 47 What does the internal Layer line?
- 48 What name is given to the interval between the Encephalon and inner surface of the Arachnoid?
- 49 Does the Arachnoid dip into the Depressions caused by the Convulsions?
- 50 What part of the Encephalon is in close union with the Arachnoid?
- 51 What is the name of the Serous Secretion which exists in the Subarachnoidean spaces?
- 52 Do Vessels exist in the Arachnoid?
- 53 Whence are the Nerves of the Arachnoid derived?

SECTION LIII.—SPINAL CORD.

- 1 What is the Spinal Cord?
- 2 What is its extent?
- 3 What is its length and form?
- 4 Is the Cord of equal size throughout?
- 5 Is there any difference in appearance in the two Enlargements?
- 6 What does the Cord present anteriorly and posteriorly?
- 7 Which Fissure is the best marked?
- 8 What is the depth of the anterior Fissure?
- 9 How are the sides of this Fissure united at the bottom?
- 10 Is the anterior or posterior Median Fissure the deepest?
- 11 How does the posterior Fissure terminate at the bottom?
- 12 How are the two Lateral Cords united to each other?
- 13 What other Fissures do you observe on the Cord?
- 14 What do they correspond to?
- 15 Which is the most distinct?
- 16 Where does the posterior Lateral Fissure terminate?
- 17 Into how many Columns is the Spinal Cord divided by the Fissures?
- 18 What are the anterior Columns of the Cord?
- 19 What name do the anterior Columns assume on the anterior surface of the Medulla Oblongata?
- 20 What are the posterior Columns of the Cord?
- 21 What name do the posterior Columns assume on the posterior and Lateral parts of the Medulla Oblongata?

- 22 Is not the anterior and Lateral Column on either side described as the Antero-lateral Column?
- 23 Where do the Lateral Columns terminate?
- 24 What is its use?
- 25 What part of the Cord is this Fasciculus most distinct?
- 26 What is the name of the thin Fasciculus situated on either side the posterior Median Fissure?
- 27 How does the Spinal Cord terminate?
- 28 By what Membranes is the Spinal Cord enveloped?
- 29 Is the Dura Mater (Theca Vertebralis) very adherent to the Spinal Cord?
- 30 What is its extent along the Canal?
- 31 Which part of the Sheath of the Dura Mater is the largest?
- 32 What exists between this Sheath and the inner surface of the Vertebral Canal?
- 33 Are the Spinal Nerves invested with Sheaths from the Dura Mater?
- 34 What Membrane of the Cord lines the Dura Mater?

ARACHNOID MEMBRANE.

- 35 What is the Arachnoid Membrane?
- 36 Is the Arachnoid Membrane very adherent to the Spinal Cord?
- 37 Does the Arachnoid Membrane, like the Dura Mater, form Sheaths to the Spinal Nerves?
- 38 Is the outer surface of the Arachnoid very adherent to the Dura Mater?
- 39 Is the interval between the inner surface of the Arachnoid and the Spinal Cord similar to that which exists between the same parts in the Brain?
- 40 Does the Sub-arachnoid Fluid of the Cord communicate with that in the Lateral Ventricles?

PIA MATER.

- 41 What is the Pia Mater?
- 42 What is its structure?
- 43 Is it loosely or closely connected with the Cord?
- 44 What does it form in the anterior and posterior Median Fissures?

- 45 Does it form Sheaths for the Nerves?
- 46 What is the name of this process of Pia Mater which separates the anterior from the posterior Roots of the Spinal Nerves on either side?
- 47 What does this white Fibrous Ligament form between the Nerves?
- 48 How many processes exist on either side?
- 49 Where are the first and last attached?
- 50 What is the use of this Ligament?

VESSELS AND NERVES OF THE SPINAL MEMBRANES.

- 51 Is the Dura Mater supplied with Vessels?
- 52 Is the Arachnoid supplied with Vessels?
- 53 Are the Dura Mater and Arachnoid supplied with Nerves?
- 54 Is the Pia Mater supplied with Vessels and Nerves?
- 55 What is the structure of the Spinal Cord?
- 56 What does a horizontal section of the Cord present in its interior?
- 57 What is each of these Tubes filled with?
- 58 What is the form of the grey matter in a transverse section of the Cord?
- 59 What is the grey matter composed of?
- 60 What is the Medullary or white portion of the Cord composed of?
- 61 Whence are the Vessels on the surface of the Spinal Cord derived?
- 62 What is there peculiar in the anterior and posterior Spinal Arteries?
- 63 Where do the Veins of the Spinal Cord terminate?
- 64 Whence are the Intra-spinal Vessels derived?
- 65 Through what Foramina do they enter the Spinal Canal?

SECTION LXIV.—NEUROLOGY.

(*Neuron*, a nerve; and *logos*, a discourse.)

- 1 How are the Nerves divided?
- 2 What are the Nerves?
- 3 What is their general distribution?
- 4 What communication do they form with each other?
- 5 What is the structure of a Nerve?
- 6 How are they nourished?

- 7 How do the Cerebral Nerves pass out of the Cranium?
- 8 How many Cerebral Nerves are there?
- 9 Enumerate the Cerebral Nerves from before backwards.

CEREBRAL NERVES.

- 10 What is the situation of the Olfactory Nerve?
- 11 What are the origins of the first pair of Nerves?
- 12 What does the Olfactory Nerve form anteriorly?
- 13 How many Branches are given off from it?
- 14 How do they pass out of the Cranium?
- 15 How are they divided?
- 16 Where are the Filaments of the inner set distributed?
- 17 Where are the middle set distributed?
- 18 Where are the external set distributed?
- 19 Which of the Roots are Medullary?
- 20 In what does the Olfactory Nerve differ in structure from the other Cerebral Nerves?
- 21 Are the Branches of the Olfactory Nerve provided with any Covering as they leave the Cranium?

SECOND PAIR.

- 22 What are the origins of the Optic Nerves?
- 23 What is its course?
- 24 Where is the Optic Commissure situated?
- 25 What is in relation with this Commissure posteriorly?
- 26 Do the Fibres of the two Nerves in the Commissure Decussate?
- 27 Which of the two are the most numerous? *innermost*
- 28 In which part of its course does the Optic Nerve receive a prolongation of the Dura Mater?
- 29 What is this Sheath or prolongation of the Dura Mater continuous with?
- 30 What part of the Nerve is destitute of this prolongation of the Dura Mater?
- 31 What Artery pierces the substance of the Optic Nerve to be distributed upon the inner surface of the Retina?
- 32 What Artery accompanies this Nerve through the Optic Foramen?

THIRD PAIR.

- 33 What are the origins of the Motores Oculorum?

- 34 What is its course?
- 35 What is the Motor Oculi?
- 36 Enumerate the Muscles which it supplies.
- 37 Which division or Branch of the Motor Oculi supplies the inferior Rectus, internal Rectus, and the inferior Oblique?
- 38 What does the superior Branch supply?
- 39 Which Branch of the Motor Oculi communicates with the Ophthalmic or Lenticular Ganglion?

FOURTH PAIR.

- 40 Which is the smallest of the Cerebral Nerves?
- 41 What is its origin?
- 42 What is its course?
- 43 What is its position in the Wall of the Cavernous Sinus?
- 44 What is its position when about to enter the Fissure?
- 45 What is its distribution? *45 What are its branches?*

FIFTH PAIR.

- 46 Which is the largest of the Cerebral Nerves?
- 47 What is its origin?
- 48 What does it consist of?
- 49 What is its course?
- 50 Where is the Gasserion Ganglion situated?
- 51 Enumerate the Branches of the Gasserion Ganglion?

OPHTHALMIC NERVE.

- 52 How does the Ophthalmic Nerve pass out of the Cranium?
- 53 Enumerate the Branches of the Ophthalmic Nerve.
- 54 Which is the largest of the Ophthalmic Branches?
- 55 Through what Foramen does the Frontal Branch pass to the Forehead?
- 56 Does the Frontal give off any Branches?
- 57 Which is the smallest of the Ophthalmic Branches?
- 58 How does the Nasal Branch enter the Orbit?
- 59 Through what Foramen in the Orbit does the Nasal Branch enter the Cranium?
- 60 What is its course after entering the anterior Ethmoidal Foramen?
- 61 Enumerate the Branches the Nasal Nerve gives off within the Orbit.

- 62 How is the superior or long Root of the Lenticular or Ophthalmic Ganglion formed?
- 63 How many long Ciliary Branches are there?
- 64 Where are they distributed?
- 65 Where does the Infra-trochlear Branch arise?
- 66 What does it communicate with?
- 67 Where is it distributed?
- 68 What is the Ophthalmic Nerve?

SUPERIOR MAXILLARY NERVE.

- 69 Where does the superior Maxillary Nerve arise?
- 70 What is its course?
- 71 Enumerate the Branches of the superior Maxillary Nerve.
- 72 Enumerate the first set.
- 73 Through what Fissure does the Orbital enter the Orbit?
- 74 What does it give off?
- 75 What does the Orbital Branch communicate with?
- 76 Enumerate the second set of Branches.
- 77 Enumerate the third or Terminating Branches.
- 78 What do these Terminal Ramifications communicate with?
- 79 What does the superior Maxillary Nerve give off ere it terminates in the Facial Nerve?
- 80 What do the Terminal Branches supply?
- 81 What is the superior Maxillary Nerve?

INFERIOR MAXILLARY NERVE.

- 82 Which is the largest Branch of the fifth Nerve?
- 83 Where does this Nerve arise?
- 84 Where does the Nerve leave the Cranium?
- 85 Into how many Branches does this Nerve divide?
- 86 What Muscle divides these two primary Branches?
- 87 Enumerate the Branches of the anterior or external division.
- 88 Where are these Branches distributed?
- 89 Enumerate the Branches of the posterior, internal, or larger division.
- 90 Name the Branches in this Region which are furnished by Auriculo-temporal.
- 91 What is the course of the inferior Dental Nerve?
- 92 What Branch does the inferior Dental give off as it is about to enter the Dental Foramen?

- 93 What is the course of the Gustatory Nerve?
- 94 What Branch does the Gustatory receive in its course to the Tongue?
- 95 What does the Gustatory Nerve supply?
- 96 What is the inferior Maxillary Nerve?

SIXTH PAIR.

- 97 What is the origin of the sixth pair of Nerves?
- 98 What is its course?
- 99 To what Muscle is the sixth distributed?
- 100 What Vein is in relation with this Nerve at its entrance into the Orbit?
- 101 What Nerves are in relation with this Nerve in the Cavernous Sinus?
- 102 What is the sixth Nerve?

SEVENTH PAIR.

- 103 What is the origin of the seventh Cerebral Nerve?
- 104 Is the seventh Nerve a Compound Nerve?
- 105 What is the origin of the Portio Mollis?
- 106 Where is the Auditory Nerve distributed?
- 107 Enumerate the Branches of the Auditory Nerve.
- 108 What is the Auditory Nerve?
- 109 What Nerve accompanies the Auditory Nerve to the internal Meatus?
- 110 What is the origin of the Facial Nerve?
- 111 Through what Osseous Canal at the bottom of the internal Meatus does the Facial Nerve pass from the Cranium?
- 112 Through what Foramen does the Facial Nerve issue after traversing the Fallopian Aqueduct?
- 113 What course does it take after emerging at the Stylo-mastoid Foramen?
- 114 Enumerate the Branches which it gives off as soon as it has emerged from the Stylo-mastoid Foramen.
- 115 Name the two Trunks into which the Facial Nerve divides.
- 116 Enumerate the Terminal Branches of the Temporo-facial Nerve.
- 117 Where are these Terminal Branches distributed?

- 118 Near to the Orbit and beneath the Levator Labii Superioris is situated the Infra-orbital Plexus; how is it formed?
- 119 Enumerate the Terminal Branches of the Cervico-facial Nerve.
- 120 Where are these Terminal Branches distributed?
- 121 What name has been given to the Facial in consequence of its frequent communications with other Nerves?
- 122 What are the Connecting Branches of the Facial?
- 123 Enumerate the Connecting Branches of the Facial Nerve within the Petrous Bone.
- 124 Enumerate the Connecting Branches of the Facial Nerve as soon as it has emerged from the Stylo-mastoid Foramen.
- 125 Enumerate the Connecting Branches of the Facial Nerve within the Parotid Gland.
- 126 Enumerate the Connecting Branches of the Facial Nerve over the Face and Neck.

EIGHTH PAIR.

- 127 What does the eighth pair of Nerves consist of?
- 128 Which is the smallest of these three portions or Trunks?
- 129 What is the origin of the Glosso-pharyngeal Nerve?
- 130 Through what Aperture does it leave the Cranium?
- 131 Where is the Glosso-pharyngeal Nerve ultimately distributed?
- 132 What is the name of the two Ganglionic Enlargements which the Glosso-pharyngeal Nerve presents in the Jugular Fossa?
- 133 From which Ganglion do Branches proceed to unite with the other Nerves?
- 134 Enumerate the Connecting Branches of the Petrosal Ganglion.
- 135 Enumerate the Branches of distribution of the Glosso-Pharyngeal Nerve?
- 136 Which is largest of the three portions of the eighth Cerebral Nerve?
- 137 What is the origin of Pneumogastric Nerve?

- 138 Through what opening does the Pneumogastric Nerve leave the Cranium?
- 139 What is the name of the Ganglion which it presents in the Jugular Foramen?
- 140 What is the name of the Ganglion which it presents as soon as it has quitted the Jugular Foramen?
- 141 Enumerate the Connecting Branches of the Ganglion of the Root.
- 142 Enumerate the Connecting Branches of the Ganglion of the Trunk.
- 143 Enumerate the Branches of Distribution of the Vagus Nerve.
- 144 What does the Pharyngeal Nerve assist to form?
- 145 Where is this Plexus distributed?
- 146 Enumerate the Branches which arise from the Recurrent Nerve.
- 147 How is the anterior Pulmonary Plexus formed?
- 148 How is the posterior Pulmonary Plexus formed?
- 149 What name has been given to the numerous Vagi Branches around the Œsophagus, below the Root of the Lung?
- 150 Where are the Terminal Branches of the Vagus distributed?
- 151 Do the Terminal Branches of the Vagus communicate with the Solar Plexus?
- 152 What is the origin of the Spinal Accessory Nerve?
- 153 What becomes of the first, smaller, or Accessory portion of the Nerve?
- 154 What Branches does it give off?
- 155 What is the course of the second, larger, or Spinal portion of the Nerve?

NINTH PAIR.

- 156 What is the Hypo-glossal Nerve?
- 157 What is the origin of the ninth Cerebral Nerve?
- 158 What do these Filaments form?
- 159 After leaving the Cranium what is its course?
- 160 Enumerate the Connecting Branches of the ninth Nerve.
- 161 Enumerate the Branches of Distribution of the ninth Nerve.

- 162 What relation is the ninth Nerve to the Gustatory on the Tongue?
- 163 You say that the ninth is distributed to the Muscles of the Tongue; where does the Gustatory terminate?
- 164 How are the Cerebral Nerves arranged functionally?
- 165 Enumerate the first set of either side.
- 166 Enumerate the second set.
- 167 Enumerate the third set.
- 168 Enumerate the fourth set.

SECTION LV.—SPINAL NERVES.

- 1 How many pairs of Spinal Nerves are there?
- 2 How do they arise?
- 3 From what part of the Medulla Spinalis do the anterior arise?
- 4 From what part of the Medulla Spinalis do the posterior arise?
- 5 What do each of the posterior Roots form?
- 6 Where do the Fibres of the anterior Roots unite with those of the posterior Roots?
- 7 What do the two Roots form as soon as they are united?
- 8 Where do the Spinal Nerves escape from the Canal?
- 9 What becomes of them after passing through these Foramina?
- 10 How are the Spinal Nerves divided?

CERVICAL NERVES.

- 11 How many pairs of Cervical Nerves are there?
- 12 How do they leave the Spinal Cord?
- 13 How do the first pair pass from the Spinal Canal?
- 14 How do the last pair pass from the Spinal Canal?
- 15 How does the anterior Branch of the first Cervical Nerve terminate?
- 16 Enumerate the Connecting Branches which this Loop forms.
- 17 Where is the posterior Primary Branch of the first Cervical Nerve distributed?

CERVICAL PLEXUS.

- 18 How is the Cervical Plexus formed?
- 19 Where is the Cervical Plexus situated?

- 20 How are the Branches of the Cervical Plexus arranged?
- 21 How are the superficial Branches divided?
- 22 Enumerate the Ascending superficial Branches of the Cervical Plexus.
- 23 How does the Superficialis Colli terminate?
- 24 How are the Superficialis Colli and Auricularis Magnus formed?
- 25 How does the Auricularis Magnus terminate?
- 26 How is the Occipitalis Minor formed?
- 27 Enumerate the Descending superficial Branches of the Cervical Plexus.
- 28 How are these Branches formed?
- 29 Where are they distributed?
- 30 Enumerate the deep Branches of the Cervical Plexus?
- 31 How is the Phrenic Nerve formed?
- 32 Where is this Nerve distributed?
- 33 Are the two Phrenic Nerves of equal length?
- 34 How many Communicating Branches are there to the Descendens Noni?
- 35 Where are the deep Muscular Branches distributed?
- 36 What Branches do the Phrenic Nerves communicate with?

POSTERIOR CERVICAL PLEXUS.

- 37 How is the posterior Cervical Plexus formed?
- 38 Where is the posterior Cervical Plexus situated?
- 39 Enumerate the Branches of the posterior Cervical Plexus.
- 40 Where are the posterior Muscular Branches distributed?
- 41 Where are the posterior Cutaneous Branches distributed?
- 42 What is the Occipital Major Nerve?
- 43 Where are the posterior Primary Branches of the fourth, fifth, sixth, seventh, and eighth Cervical Nerves distributed?

SECTION LVI.—BRACHIAL OR AXILLARY PLEXUS.

- 1 How is the Brachial Plexus formed?
- 2 What is the extent of this Plexus?
- 3 Into how many portions or Trunks may this Plexus be conveniently divided?

- 4 How are these three portions or Cords converted into two?
- 5 Then how are the two Cords formed?
- 6 Between what Muscles in the Neck do the Nerves of the Brachial Plexus issue?
- 7 What relation is this Plexus to the Axillary Artery?
- 8 How are the Branches of the Brachial Plexus divided?
- 9 Enumerate the Branches of the Brachial Plexus above the Clavicle.
- 10 Where do the Phrenic and Rhomboid Branches arise?
- 11 Where do the Subclavian, posterior Thoracic, and Suprascapular Branches arise?
- 12 Enumerate the Branches of the Brachial Plexus below the Clavicle.
- 13 Enumerate the Branches which arise from the outer Cord,—that is to the outer side of the Axillary Artery.
- 14 Enumerate the Branches which arise from the inner Cord.
- 15 Enumerate the Branches which arise from the posterior Cord.
- 16 Where are the Branches which arise from the Brachial Plexus below the Clavicle chiefly distributed?
- 17 Are all the Cutaneous Nerves of the upper extremity derived from the Brachial Plexus?
- 18 What Nerve supplies all the Muscles on the front of the Forearm, the Flexor Carpi Ulnaris excepted?
- 19 What Nerve supplies the Flexor Carpi Ulnaris Muscle?
- 20 How does the Median Nerve arise?
- 21 What Artery is embraced by the two Heads of the Median Nerve?
- 22 What is the course and distribution of the Median Nerve?
- 23 What Muscles does the Muscular Branch of the Thumb supply?
- 24 How many Digital Branches are there?
- 25 Enumerate the Median Branches of the Forearm.
- 26 What is the course and distribution of the Musculo-cutaneous Nerve vel Perforans Casserii?
- 27 Does it supply Branches in its course to the Elbow?
- 28 What is the course and distribution of the internal Cutaneous Nerve?

- 29 What relation is the Median Basilic Vein to the anterior or external Branch at the bend of the Elbow?
- 30 What communications do the internal Cutaneous Filaments on the Forearm form?
- 31 What is the course and distribution of the lesser internal Cutaneous Nerve?
- 32 What is the course and distribution of the Ulnar Nerve?
- 33 What relation is the Ulnar Nerve to its Artery from the middle of the Forearm to the Hand?
- 34 What Branches are given off from the Ulnar Nerve in its course to the Elbow-joint?
- 35 What Branches are given off from the Ulnar Nerve in its course from the Elbow to the Hand?
- 36 How many Subscapular Nerves are there?
- 37 What is their origin and distribution?
- 38 How does the posterior Cord of the Plexus terminate?
- 39 What is the direction of the Circumflex Nerve?
- 40 What is the course and distribution of the Musculo-spiral Nerve?
- 41 What Branches does the Musculo-spiral supply in this extent?
- 42 Where are the Muscular Branches distributed?
- 43 What is the course and distribution of the Radial Nerve?
- 44 What does the internal division of the Radial Nerve communicate with?
- 45 What relation is the Radial Nerve to its Artery in the middle third of the Forearm?
- 46 Beneath what Tendon does the Radial Nerve pass to reach the back of the Hand?
- 47 What is the course and distribution of the posterior Interosseous Nerve?
- 48 Where is this Nerve continued to?
- 49 Does the posterior Interosseous supply Offsets to both the superficial and deep Layers of Muscles.

SECTION LVII.—DORSAL NERVES.

- 1 How many pairs of Dorsal Nerves are there?
- 2 Through what Foramina do they leave the Spinal Canal?
- 3 How do the first and last escape from the Spinal Canal?

- 4 Do these Nerves, like those of the Cervical, divide into two Branches?
- 5 How do the posterior Primary Branches pass?
- 6 What are the Intercostal Nerves?
- 7 How many Intercostal Nerves are there?
- 8 What is their course?
- 9 What Filaments does each Intercostal Nerve receive near the Heads of the Ribs?
- 10 In what does the last Intercostal Nerve differ from the others?
- 11 What Branches does each Intercostal Nerve supply?
- 12 How is each Cutaneous Branch divided?
- 13 Where is each Lateral Cutaneous Branch given off?
- 14 Where is each Anterior Cutaneous Branch given off?
- 15 Does the first Intercostal Nerve supply a Cutaneous Branch?
- 16 What name is given to the Cutaneous Branches of the second and third Intercostal Nerves?
- 17 What is the course of the first Intercosto-humeral Branch?
- 18 What is the course of the second Intercosto-humeral Branch?
- 19 In what does the Lateral Cutaneous Branch of the last Dorsal differ from the others?

SECTION LVIII.—LUMBAR NERVES.

- 1 How many pairs of Lumbar Nerves are there?
- 2 How do the first and last pairs escape from the Canal?
- 3 Where are the posterior Branches distributed?
- 4 How are the posterior Branches divided?
- 5 How is the Lumbar Plexus formed?
- 6 Where is the Lumbar Plexus situated?
- 7 Enumerate the Branches of the Lumbar Plexus.
- 8 What does the Musculo-cutaneous Nerve consist of?
- 9 What is the origin, course, and distribution of the Ilio-sciatic or superior Branch?
- 10 What is the origin, course, and distribution of the Ilio-hypogastric vel inferior Branch?

- 11 What is the origin, course, and distribution of the external Cutaneous Branch?
- 12 What is the origin, course, and distribution of the external Pudic vel Genito-crural Branch?
- 13 What is the origin and course of the anterior Crural or Femoral Nerve?
- 14 Does the Femoral Nerve supply Branches within the Pelvis?
- 15 Enumerate the Branches of the Femoral Nerve after it has left the Abdomen.
- 16 Where is the internal Cutaneous Branch distributed?
- 17 Where is the middle Cutaneous Branch distributed?
- 18 What is the extent of the internal or long Saphenous Nerve?
- 19 What is the course of the internal Saphenous Nerve?
- 20 Does it supply any Cutaneous Filaments whilst in the Thigh?
- 21 Which Branch of the Museulo-cutaneus Cruris does the internal Saphenous communicate with?
- 22 What is the origin, course, and distribution of the Obturator Nerve?
- 23 How is is the Lumbo-sacral Nerve formed?
- 24 What does this Nerve assist to form?

SECTION LVIX.—SACRAL NERVES.

- 1 How many pairs of Sacral Nerves are there?
- 2 How are they divided?
- 3 How do the anterior Primary Branches pass from the Spinal Canal?
- 4 How do the posterior Primary Branches issue from the Spinal Canal?
- 5 Are the anterior Primary Branches of equal thickness?
- 6 Which are the smallest Primary Branches of the Sacral Nerves?
- 7 Where are the posterior Primary Branches distributed?
- 8 What communications with other Nerves do the anterior Primary Branches form as soon as they have escaped from the Sacral Foramina?

- 9 Into what does the fourth Sacral Nerve divide?
- 10 What does the first part communicate with?
- 11 What does the second part communicate with?
- 12 Enumerate the Viscera which it supplies.
- 13 What Muscles does the second part supply?
- 14 Do the fifth and sixth Sacral Nerves (the latter sometimes called the Coccygeal Nerve) assist to form the Sacral Plexus?
- 15 What Plexus supplies the Viscera of the Pelvis and Generative Organs?
- 16 Which of its Nerves chiefly supplies the Perinæum and Genital Organs?

SACRAL PLEXUS.

- 17 How is the Sacral Plexus formed?
- 18 What is the form and situation of this Plexus?
- 19 What separates this Plexus from the internal Iliac Artery?
- 20 How are the Branches of the Sacral Plexus divided?
- 21 Where are the Visceral Branches distributed?
- 22 Where are the Muscular Branches distributed?
- 23 Enumerate the Branches of the Sacral Plexus external to the Pelvis.
- 24 Where are the external Muscular Branches distributed?
- 25 Whence is the superior Gluteal Branch derived?
- 26 What is its course and distribution?
- 27 What is the origin, course and distribution of the internal Pudic Nerve?
- 28 Does the Perinæal Branch supply any Filaments?
- 29 What does the same Nerve supply in the Female?
- 30 Where does the lesser Ischiatic Nerve arise?
- 31 What is its course?
- 32 Into what Branches does the lesser Ischiatic Nerve divide?
- 33 Where are the Muscular Branches distributed?
- 34 Where are the Cutaneous Branches distributed?
- 35 Where is the inferior Pudendal Branch distributed?
- 36 What part does the inferior Pudendal supply in the Female?
- 37 How is the greater Ischiatic Nerve formed?

- 38 What is its course?
- 39 Does the greater Ischiatic Nerve supply any Branches in its course to its division?
- 40 What is the course of the internal Popliteal Nerve?
- 41 Does the internal Popliteal Nerve supply any Branches in its course.
- 42 What is the course of the external Popliteal or Peroneal Nerve?
- 43 Does the external Popliteal or Peroneal Nerve supply any Branches in its course?
- 44 Where are the Cutaneous Branches distributed?
- 45 Among its Cutaneous Branches does it supply a communicating Peroneal Branch which is distributed to the back of the Leg?
- 46 Where are the Muscular Branches distributed?
- 47 What is the course of the posterior Tibial Nerve?
- 48 What relation is this Nerve to the posterior Tibial Artery below the origin of its Peroneal Branch?
- 49 Does the posterior Tibial Nerve supply any Branches previous to its Bifurcation?
- 50 Where are the Muscular Branches distributed?
- 51 Where are the Cutaneous Branches distributed?
- 52 Which is the largest Plantar Nerve?
- 53 What is its course?
- 54 Are all the Digital Branches distributed alike?
- 55 Does the internal Plantar Nerve supply offsets?
- 56 What is the course of the external Plantar Nerve?
- 57 Where does the external Plantar Nerve terminate?
- 58 How are the Branches of the external Plantar Nerve divided?
- 59 Does the external Plantar Nerve supply Cutaneous Offsets?
- 60 What Branch in the Foot connects the external Plantar with the internal Plantar Nerve?
- 61 What is the course of the anterior Tibial or Interosseous Nerve?
- 62 Does the anterior Tibial Nerve supply any Branches in its course?
- 63 What is the course of the Musculo-cutaneous Nerve?

- 64 What Nerves does the inner Branch of the Musculo-cutaneous communicate with?
- 65 What Nerve does the outer Branch communicate with?
- 66 Does the Musculo-cutaneous Nerve supply any Branches in its course?

SECTION LX.—SYMPATHETIC SYSTEM.

- 1 What is the situation of the great Sympathetic Nerve?
- 2 What communications does it form?
- 3 What does it supply?
- 4 Where is this great system supposed to commence?
- 5 Where does it communicate with the other Nerves of the Body?
- 6 Where does it communicate with the Olfactory, Optic, and Auditory Nerves?
- 7 What relation are the Branches of this System to the Arteries?
- 8 How may the Knots or Ganglia of the Sympathetic Nerve be divided?
- 9 Enumerate the Cranial or Cerebral Ganglia.
- 10 What is the situation of the Ophthalmic Ganglion?
- 11 Enumerate the Branches of the Lenticular Ganglion.
- 12 Enumerate the Communicative Branches of the Lenticular Ganglion which proceed from its posterior part.
- 13 What is the form, colour, and size of the Lenticular Ganglion?
- 14 What are the functions of the Lenticular Ganglion?
- 15 Which is the largest of the Cerebral Ganglia?
- 16 Where is this Ganglion situated?
- 17 How are its Branches divided?
- 18 Enumerate the Ascending Branches.
- 19 Where are the Descending or posterior Palatine Branches distributed?
- 20 Where are the anterior or internal Branches distributed?
- 21 Where are the posterior Branches distributed?
- 22 Then what becomes of the Vidian Nerve?
- 23 What are the functions of the Vidian Nerve?
- 24 What Offset does it receive whilst within the Hiatus Fallopii of the Petrous Bone?

- 25 How does Meckel's Ganglion communicate with the the other Cranial Ganglia?
- 26 What are the functions of Meckel's Ganglion?
- 27 Where is the Otic or Arnold's Ganglion situated (Ganglion Auriculare)?
- 28 Enumerate the Branches of the Otic Ganglion.
- 29 What are the functions of the Otic Ganglion?
- 30 Where is the Ganglion of Ribes situated?
- 31 How is it formed?
- 32 What Cranial Ganglion forms the bond of union between the Sympathetic Cord of both sides the Body?
- 33 Where is the Naso-palatine or Cloquet's Ganglion situated?
- 34 Enumerate the Branches of this Ganglion.
- 35 Where is the Submaxillary Ganglion situated?
- 36 What is its colour and size?
- 37 Enumerate the Branches of this Ganglion.
- 38 What Plexuses are formed in the Cranium by the Ascending Branch of the superior Cervical Ganglion?
- 39 Where is the Carotid Plexus situated?
- 40 What Cranial Nerve communicates directly with the Carotid Plexus?
- 41 What is the Cavernous Plexus?
- 42 What Cranial Nerves receive Filaments from the Cavernous Plexus?
- 43 Which Plexus communicates with all the Cranial Ganglia?
- 44 Enumerate some of the Cranial Nerves which communicate indirectly with the Carotid Plexus.

CERVICAL GANGLIA.

- 45 What is the situation of the Cervical Sympathetic Nerve?
- 46 How many Ganglia does it present?
- 47 Which is the largest of these three Ganglia?
- 48 What is its form, colour and extent?
- 49 How are its Branches divided?
- 50 Where are the distributive Branches supplied?
- 51 Enumerate the communicative Branches of the superior Cervical Ganglion.
- 52 How many Sympathetic Cardiac Branches are given off in the Cervical Region?

- 53 What is the situation of the middle Cervical Ganglion?
- 54 How are its Branches divided?
- 55 Where are the Distributive Branches supplied?
- 56 What Nerves do these Thyroid Branches join?
- 57 What is the name of the Distributive Branch which terminates in the Cardiac Plexus?
- 58 What Nerves does this Cardiac Branch join in the Neck?
- 59 What Spinal Nerves communicate with the middle Cervical Ganglion?
- 60 What is the situation of the inferior Cervical Ganglion?
- 61 How many Branches of Distribution does it give off?
- 62 Where does the inferior Cardiac Nerve terminate?
- 63 What communicative Branches does this Ganglion give off?

CARDIAC PLEXUSES.

- 64 How is the great Cardiac Plexus formed?
- 65 Where is this Plexus situated?
- 66 Does the great Cardiac Plexus assist to form the anterior and posterior Pulmonary Plexuses?
- 67 How is the anterior Cardiac Plexus formed?
- 68 How is the anterior or right Coronary Plexus formed?
- 69 How is the posterior or left Coronary Plexus formed?

THORACIC GANGLIA.

- 70 How many Thoracic Ganglia are there?
- 71 Where are they situated?
- 72 Which is the largest Thoracic Ganglion?
- 73 By what Membranes are they covered?
- 74 What does each Thoracic Ganglion supply?
- 75 How many Spinal Branches issue from each Ganglion?
- 76 How are the Visceral or internal Branches arranged?
- 77 Where does the great Splanchnic Nerve arise?
- 78 What is its course?
- 79 How is the small Splanchnic Nerve formed?

ABDOMINAL GANGLIA.

- 80 Name the largest Ganglia of the Body.
- 81 What is their situation?
- 82 What does it form with its fellow on the opposite side?
- 83 What is the name given to the aggregate by which this Circle is formed?

SOLAR PLEXUS.

- 84 What large Nerves does the Solar Plexus receive from the Thorax?
- 85 Where are the Nerves of the Solar Plexus distributed?
- 86 What name is given to the numerous Filaments which accompany the Vessels to each Viscus?
- 87 Enumerate some of the Plexuses whose Nerves are derived from the Solar Plexus.
- 88 Enumerate the Plexuses formed by the Cæliac Plexus.
- 89 How is the Spermatic Plexus chiefly formed?
- 90 How is the inferior Mesenteric Plexus formed?

LUMBAR GANGLIA.

- 91 How many Lumbar Ganglia are there on either side?
- 92 Where is this Ganglionated Cord situated?
- 93 How are its Branches divided?
- 94 Where are the Distributive Branches supplied?
- 95 What do they form ere they reach the Viscera?
- 96 What Filaments does the Aortic Plexus receive?
- 97 Where does the Aortic Plexus terminate?
- 98 Where is the Hypogastric Plexus situated?
- 99 How does the Hypogastric Plexus terminate?
- 100 Enumerate the communicative Branches of the Lumbar Ganglia.

SACRAL GANGLIA.

- 101 How many Sacral Ganglia are there on either side?
- 102 Where is this Ganglionated Cord situated?
- 103 What is this Cord continuous with above?
- 104 What is the Cord continuous with below?
- 105 What is situated on this Loop?
- 106 What is the use of this Ganglion?
- 107 How are the Branches of the Sacral Ganglia divided?
- 108 Enumerate some of the Pelvic Plexuses.
- 109 Enumerate the communicative Branches of the Sacral Ganglia.
- 110 What difference is there between the Cerebro-Spinal and Sympathetic Systems of Nerves?

TABLE OF THE BONES.

68 Bones of the Upper Extremities. The Skeleton consists of 248 Bones comprising	53 Bones of the Trunk	63 Bones of the Head.	8 Large and 8 Small Bones of the Cranium.	{ <div> 1 Os Occipitis. 1 Os Frontis. 2 Ossa Temporum, containing .. 2 Ossa Parietalia. 1 Os Sphenoides. 1 Os Ethmoides. </div>	{ <div> 2 Mallei. 2 Inci. 2 Ossa Orbicularia, 2 Stapedes. </div>
			46 Bones of the Face.	{ <div> 2 Ossa Maxillaria. 2 „ Malarum. 2 „ Palatina. 2 „ Lachrymalia. 2 „ Nasi. 2 „ Turbinata. 1 Vomer. 1 Os Maxillare Inferius. </div>	
			Bone of the Tongue.	{ <div> 32 Dentes, consisting of .. 1 Os Hyoides. </div>	{ <div> 8 Incisores. 4 Cuspidati. 8 Bicuspidati. 8 Molares. 4 Dentes Sapientia. </div>
			25 Bones of the Thorax	{ <div> 1 Sternum. 24 Costæ. </div>	{ <div> 7 True. { on either 5 False. { side. </div>
			28 Bones of the Spine and Pelvis	{ <div> 24 Vertebrae. 1 Os Sacrum. 1 Os Coccygis. 2 Ossa Innominata, consisting of .. </div>	{ <div> 1 Os Ilium. 1 Os Ischium. 1 Os Pubis, </div> } on other side.
			4 Bones of the Shoulders,—consisting of	{ <div> 2 Claviculae. 2 Scapulæ. </div>	
			2 Bones of the Arms.....	2 Humeri.	
			4 Bones of the Forearms,—consisting of	{ <div> 2 Ulnæ. 2 Radii. </div>	
			54 Bones of the Hands, consisting of	2 Ossa Navicularia.	
				2 „ Lunaria.	
				2 „ Cuneiformia.	
				2 „ Pisiformia.	
			16 Ossa Carpi.	2 „ Trapezia.	
				2 „ Trapezoides.	
				2 „ Magna.	
				2 „ Unciformia.	
			10 Ossa Metacarpi.		
			28 Phalanges.		
			4 Ossa Sesamoidea :—2 to each Metacarpal Bone of the Thumb.		

64 Bones of the Lower Extremities.	{ 2 Bones of the Thighs 2 Femora.	
	{ 6 Bones of the Legs { 2 Tibiæ. 2 Fibulæ. 2 Patellæ.	
	{ 52 Bones { 14 Ossa Tarsi { 2 Ossa Calcium. of the { 10 Ossa Meta Tarsi { 2 Astragali. Feet. { 28 Phalanges. { 2 Ossa Navicularia	
	{ 2 „ Cuboides. { 2 Internal. 6 „ Cuneiformia { 2 Middle. consisting of . . { 2 External	
	{ 4 Ossa Sesamoidea :—2 to each Metatarsal Bone of the great Toe.	

TABLE OF THE MUSCLES.

Muscles of the Head and Face.	{ Cranial Region.. Occipito-frontalis.	
	{ Orbito-Ocular Region	{ Orbicularis Palpebrarum. Corrugator Supercilii. Tensor Tarsi. Levator Palpebræ Superioris.
		{ Rectus Superior. Rectus Inferior. Rectus Internus. Rectus Externus. Obliquus Superior. Obliquus Inferior.
	{ Nasal Region ..	{ Pyramidalis Nasi. Compressor Naris. Levator Alæ Nasi. Depressor Alæ Nasi.
		{ Orbicularis Oris. Levator Labii Superioris (Proprius). Levator Anguli Oris. Zygomaticus Major. Zygomaticus Minor. Buccinator. Depressor Labii Inferioris. Depressor Anguli Oris. Levator Labii Inferioris.
	{ Superior and in- ferior Labial Regions	
	{ Pterygo-Maxil- lary Region..	{ Masseter. Temporalis. Pterygoideus Externus. Pterygoideus Internus.
		{ Auricular Re- gion { Attollens Aurem. Attrahens Aurem. Retrahens Aurem.

Muscles of the Neck.	Superficial Re- gion	{ Platysma Myoides. Sterno-cleido-mastoideus.
	Submaxillary Region	{ Digastricus. Stylo-hyoideus. Stylo-glossus. Stylo-pharyngeus.
	Genio-hyoid Re- gion	{ Mylo-hyoideus. Genio-hyoideus. Genio-hyo-glossus. Hyo-glossus. Lingualis.
	Sterno-hyoid Region	{ Sterno-hyoideus. Sterno-thyroideus. Thyro-hyoideus. Omo-hyoideus.
	Vertebral Region (Lateral and Anterior) ..	{ Scalenus Anticus. Scalenus Medius. Scalenus Posticus. Rectus Lateralis. Rectus Capitis Anticus Major. Rectus Capitis Anticus Minor. Longus Colli.
	Laryngeal Re- gion	{ Crico-thyroideus. Crico-arytænoideus Posticus. Crico-arytænoideus Lateralis. Thyro-arytænoideus. Arytænoideus.
	Pharyngeal Re- gion	{ Constrictor Inferior. Constrictor Medius. Constrictor Superior.
	Palatal Region .	{ Levator Palati. Tensor Palati. Palato-glossus. Palato-pharyngeus. Azygos Uvulæ.

MUSCLES OF THE TRUNK.

Muscles of the Back.	First Layer ...	{ Trapezius. Latissimus Dorsi.
	Second Layer ..	{ Levator Anguli Scapulæ. Rhomboides Major. Rhomboides Minor.

Muscles of the Back.	Third Layer ..	{	Serratus Posticus Superior.		
			Serratus Posticus Inferior.		
			Splenius { Colli. Capitis.		
	Fourth Layer..	{	Spinalis Dorsi.		
			Erector Spinæ { Sacro Lumbalis. Longissimus Dorsi.		
			Sacro-Lumbalis { Musculus Accessorius Cervicalis Ascendens.		
			Longissimus { Transversalis Colli. Dorsi { Trachelo-mastoideus.		
			Complexus..Biventer Cervicis.		
			Fifth Layer ...	{	Rectus Posticus Major.
					Rectus Posticus Minor.
	Fifth Layer ...	{	Obliquus Superior Capitis.		
			Obliquus Inferior Capitis.		
			Semispinales { Semispinalis Dorsi. Semispinalis Colli.		
	Sixth Layer ...	{	Interspinales.		
			Multifidus Spinæ.		
Intertransversales.					
Levatores Costarum.					
Muscles of the Thorax.....	{	Intercostales Externi,			
		Intercostales Interni,			
		Triangularis Sterni,			
	{	Proper.			
		Muscles of the Abdomen	{	Obliquus Externus Abdominis.	
				Obliquus Internus Abdominis.	
Cremaster.					
Transversalis.					
Rectus.					
Pyramidalis.					
Quadratus Lumborum.					
Diaphragm.					
Muscles of the Pelvis	{	Psoas Magnus.			
		Psoas Parvus.			
		Iliacus.			
		Coccygeus.			
Muscles of the Perinæum	{	Male Perineal Region	Erector Penis.		
			Accelerator Urinæ.		
			Transversalis Perinæi.		
			Compressor Urethræ.		
			Sphincter Ani Externus.		
			Sphincter Ani Internus.		
			Levator Ani.		

Muscles of the Perinæum	{ Female Perineal Region	{ Erector Clitoridis. Constrictor Vaginæ. Transversalis Perinæi. Compressor Urethræ. Sphincter Ani Externus. Sphincter Ani Internus. Levator Ani.
Muscles of the Upper Extremity	Anterior Thora- cic & Lateral Regions	{ Pectoralis Major. Pectoralis Minor. Subclavius. Serratus Magnus.
	Anterior & Pos- terior Scapu- lar & Deltoid Regions	{ Subscapularis. Supra-spinatus. Infra-spinatus. Teres Major. Teres Minor. Deltoideus.
	Anterior Humeral Region	{ Biceps. Coraco-brachialis. Brachialis Anticus.
	Posterior Humeral Region . .	Triceps Extensor Cubiti.
	Inner & Anterior Brachial Re- gion	{ Pronator Radii Teres. Flexor Carpi Radialis. Palmaris Longus. Flexor Carpi Ulnaris. Flexor Digitorum Sublimis. Flexor Digitorum Profundus. Flexor Longus Pollicis. Pronator Quadratus.
	Outer and Poste- rior Brachial Region	{ Supinator Radii Longus. Extensor Carpi Radialis Longior. Extensor Carpi Radialis Brevior. Supinator Radii Brevis. Anconeus. Extensor Carpi Ulnaris. " Communis Digitorum. " Minimi Digiti. " Ossis Metacarpi Pollicis. " Primi Internodii Pollicis. " Secundi Internodii Pollicis. " Indicis.
	Palmar Re- gion	Thumb. { Abductor Pollicis. Flexor Ossis Metacarpi. Flexor Brevis Pollicis. Adductor Pollicis.

Muscles of the Upper Extremity	{	Palmar Re- gion	Little Finger.	{	Palmaris Brevis.	
				{	Abductor Minimi Digiti.	
					Flexor Brevis Minimi Digiti.	
					Opponens Minimi Digiti.	
					Lumbricales.	
				Interossei.		
Muscles of the Lower Extremity	{	Gluteal Region .		{	Gluteus Maximus.	
					Gluteus Medius.	
					Gluteus Minimus.	
					Pyriformis.	
					Gemellus Superior.	
					Gemellus Inferior.	
					Obturator Internus.	
					Obturator Externus.	
					Quadratus Femoris.	
			Anterior.	{	Sartorius.	
					Tensor Vaginæ Femoris.	
					Rectus.	
					TricepsExtensor	
		Femoral Re- gion	Internal.		Vastus Externus.	
					Vastus Internus.	
					Crureus.	
			{	Iliacus.		
				Psoas Magnus.		
				Pectineus.		
				Adductor Longus.		
				Adductor Brevis.		
				Adductor Magnus.		
			Posterior.	{	Gracilis.	
					Biceps.	
					Semitendinosus.	
					Semimembranosus.	
		Anterior Tibial Region.....		{	Tibialis Anticus.	
					Extensor Proprius Pollicis.	
					Extensor Longus Digitorum.	
					Peroneus Tertius.	
		Posterior Tibial Region.....		{	Gastrocnemius.	
					Soleus.	
					Plantaris.	
					Popliteus.	
					Flexor Longus Pollicis.	
					Flexor Longus Digitorum.	
		Fibular Region .		{	Tibialis Posticus.	
					Peroneus Longus.	
				Peroneus Brevis.		

Muscles of the Lower Extremity	Dorsal Region.		Extensor Brevis Digitorum. Dorsales Interossei.
	Plantar Region.	First Layer.	Abductor Pollicis. Flexor Brevis Digitorum. Abductor Minimi Digiti.
		Second Layer.	Lumbricales. Flexor Accessorius.
		Third Layer.	Flexor Brevis Pollicis. Adductor Pollicis. Transversalis Pedis. Flexor Brevis Minimi Digiti.
		Fourth Layer.	Interossei Plantares.

TABLE OF THE PRINCIPAL ARTERIES OF THE HEAD,
NECK, AND FACE.

Aorta.	Branches from the Ascending Aorta.		Coronary.
	Arch of the Aorta.	Arteria Innominate vel Brachio-Cephalic.	Right Carotid. Right Subclavian.
		Left Common Carotid.	Superior Thyroid—Gives off a Hyoid and a superior and an inferior Laryngeal Branch.
			Lingual—Gives off a Hyoid Dorsal and Sublingual & terminates in the Ranine Artery.
			Facial—Gives off inferior Palatine, Glandular, Submaxillary, Submental, inferior Labial—2 Coronary, lateral Nasal, and terminates in the angular Artery.
		External Carotid.	Occipital—Gives off Posterior Meningeal and Posterior Cervical, (Ramus Princeps Cervicis).
			Posterior Auricular—Gives off Stylo-Mastoid, Auricular and a small one to the Occipito-Frontalis.
			Ascending Pharyngeal—Gives off Meningeal and Pharyngeal.
			Temporal—Gives off Orbital, Middle anterior and posterior Temporal, anterior Auricular.

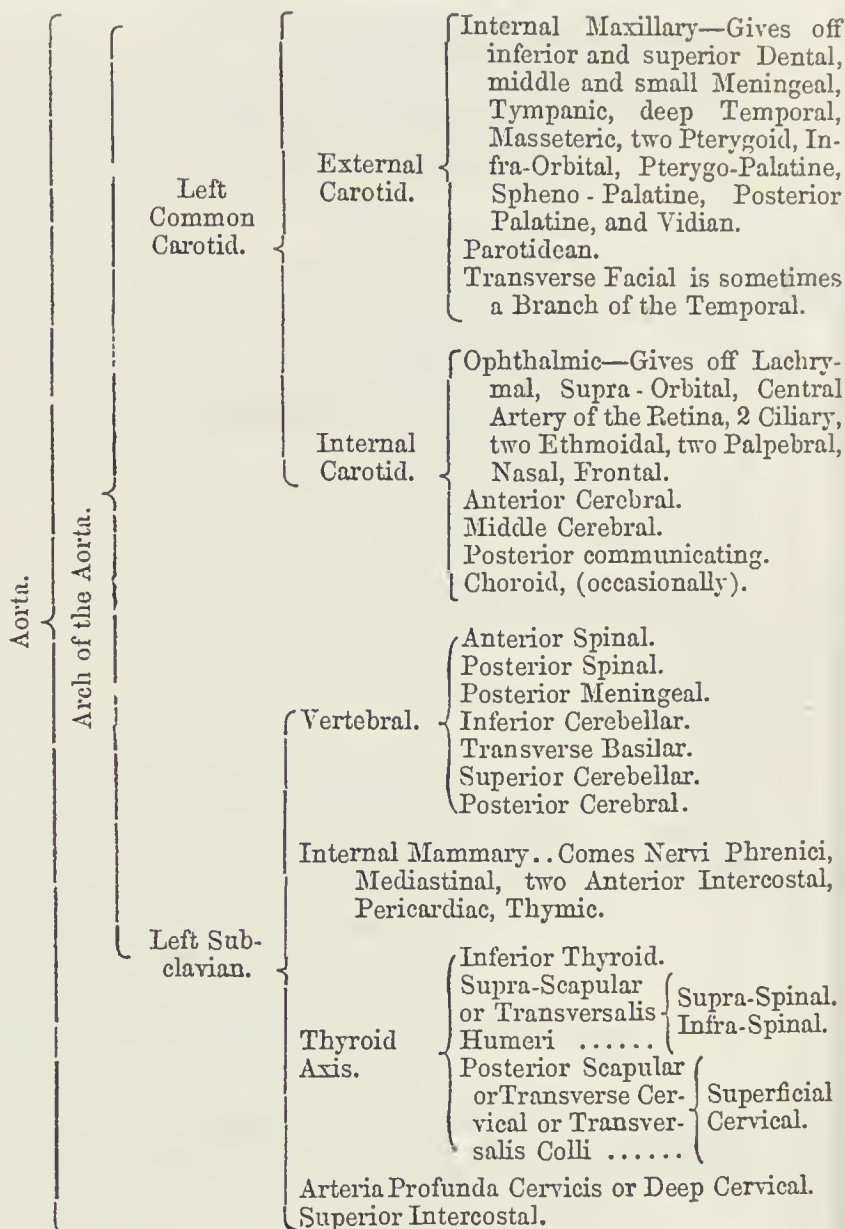


TABLE OF THE PRINCIPAL ARTERIES OF THE UPPER EXTREMITY.

Continuation of the Subclavian Artery forms the	Axillary Artery.	Superior Thoracic.	
		Acromial Thoracic..	{ Muscular, Descending Acromial, Humeral Thoracic.
		Inferior or Long Thoracic.	
		Subscapular	Dorsalis Scapulæ.
		Two Circumflex....	{ Anterior, Posterior.
	Brachial Artery.	Superior Profunda.	
		Inferior Profunda.	
		Anastomotica Magna.	
		Muscular.	
	Radial Artery.	Muscular.	
		Recurrent Radial.	
		Superficial Volar.	
		Carpal	{ Anterior, Posterior.
		Metacarpal.	
	Ulnar Artery.	Dorsalis Pollicis.	
		Princeps Pollicis.	
		Radialis Indicis.	
		Three Perforating,	
		Two or Three Palmar Interosseous, } Recurrent,	Deep Arch.
		Ulnar Recurrent .	{ Anterior, { Nutritious, Muscular, Median. Posterior { Recurrent, Muscular.
		Interosseous....	{ Anterior, Posterior.
		Muscular.	
		Anterior Carpal or Palmar.	
		Posterior Carpal or Dorsal.	
		Digital or Superficial Palmar Arch	{ Communicating, Four Digital, Muscular.

TABLE OF THE PRINCIPAL ARTERIES OF THE
THORAX, ABDOMEN, AND PELVIS.

Descending Aorta & its Bifurcation into the	Thoracic.	{	Bronchial.
			Pericardial.
		{	Œsophageal.
			Intercostal .. { Anterior, Posterior.
	Abdominal.	Visceral.	Coronary—Gives off Œsophageal and Gastric Branches.
			Hepatic—Gives off Superior Pyloric, Gastro Duodenal, & right and left Hepatic Branches: the right supplies the Cystic.
			Splenic—Gives off Pancreatic, left Gastro-Epiploic, and Vasa Brevia.
			Superior Mesenteric—Gives off Rami Intestini; Tenuis, Pancreatico-Duodenalis, Ilio-Colica, Colica Dextra, Colica Media.
			Inferior Mesenteric—Gives off Ramus Colicus Sinister, Sigmoidæus, Ramus Hæmorrhoidalis Superior.
		Parietal.	Emulgent.
			Capsular.
			Spermatic.
			Phrenic.
			Lumbar.
			Middle Sacral.
Pelvic or Common Iliac Arteries, which divide into the	Internal Iliac and	{	Vesical.
			Middle Hæmorrhoidal.
			Umbilical.
			Ischiatic—Gives off Coccygeal, Comes Nervi Ischiatici, and Muscular.
			Pudic—Gives off Inferior Hæmorrhoidal Superficial, & Transverse Perineal, Arteria Bulbosi, Arteria Corporis Cavernosi, and Arteria Dorsalis Penis.
			Uterine and Vaginal in the Female.
			Obturator.
			Ilio-Lumbar.
			Lateral Sacral.
			Gluteal—Gives off a superficial & deep, which latter divides into a Superior & an Inferior Branch.
	External Iliac.	{	Epigastric—Gives off Cremasteric.
			Circumflex Iliac.

TABLE OF THE PRINCIPAL ARTERIES OF THE LOWER EXTREMITY.

Continuation of the External Iliac forms the	Femoral Artery.	Superficial Epigastric.	
		Superficial Circumflex Iliac.	
	Popliteal Artery.	External Pudic { Superior, Inferior.	
		Profunda--Gives off Circumflex { External, Internal, }	3 Perforating { Superior, Middle, Inferior.
		Muscular.	
		Anastomoticus Magnus—Gives off a Superficial and deep Branch.	
	Anterior Tibial Artery.	Four Articular { Two Superior, Internal & External. Two Inferior, Internal & External.	
		Muscular.	
	Posterior Tibial Artery.	Azygos Articular.	
		Sural.	
		Recurrent.	
	Anterior Tibial Artery.	Articular.	
		Muscular.	
	Posterior Tibial Artery.	Malleolar . { Internal, External.	
		Dorsalis Pedis.	
		Tarsal.	
	Anterior Tibial Artery.	Metatarsal.. Three Interossei.	
		Communicating.	
	Posterior Tibial Artery.	Collateral Digital to great Toe and adjacent side of the next.	
		Peroneal.	
		Articular.	
	Posterior Tibial Artery.	Muscular.	
		Nutrient Artery of the Tibia.	
	Posterior Tibial Artery.	Plantar { Internal, External—Gives off Muscular, Articular, 4 Digital, (forming anterior perforating) and the 3 posterior perforating branches.	

TABLE OF THE PRINCIPAL VEINS OF THE HEAD, NECK, AND FACE.

Vena Innominata vel Brachio-Cephalic is formed at the root of the neck by the union of the	Subclavian Vein	Internal Jugular.	Lateral Sinus—Receives Superior & Inferior Longitudinal Sinuses, Straight and Occipital Sinuses, Superior and Inferior Petrosal Sinuses, and the Occipital Vein.
			Facial—Frontal, Supra-orbital, Infra-orbital, Inferior Palpebral, Ophthalmic, Buccal, Labial, Nasal, &c.
	Subclavian Vein	Internal Jugular.	Lingual.
			Occipital—Mastoid.
			Two Thyroid.
	Subclavian Vein	Internal Jugular.	Vertebral—Spinal, Internal & External Cervical Veins.
			External Jugular—Temporal, Internal Maxillary, Venæ Cutaneæ, Supra and Posterior Scapular, &c.
			Anterior Jugular.

TABLE OF THE PRINCIPAL VEINS OF THE ABDOMEN.

Inferior or Ascending Vena Cava is formed by the union of the	{	Two Common Iliac Veins & receives in its course (sometimes the Lumbar and Middle sacral) right Spermatic, right Cap- sular, Renal Hepatic— Phrenic.	{	Internal Iliac.	{	Internal to the Pelvis it receives.	{	Vesical, Uterine, and Vaginal Plexuses.														
									{	External to the Pelvis it receives.	{	Gluteal, Pudic, Dorsalis Pedis, Sciatic, Obtura- tor Veins, &c.										
													{	External Iliac—Epigastric, and Circumflex Iliac Veins.								
															{	Ilio Lumbar.						
																	{	Lateral Sacral & Middle Sacral to the Left Com- mon Iliac.				
																			{	Superior Mesenteric, Splenic, Coronary, and Cystic.		
																					{	Phrenic.

TABLE OF THE PRINCIPAL VEINS OF THE LOWER EXTREMITY.

Femoral Vein continued from the Popliteal receives in its course	{	Popliteal.	{	Vena Comites.	{	Posterior Tibial—External Plantar, Internal Plantar, and Peroneal Veins.
				{	Anterior Tibial—Tarsal, Metatarsal, Malleolar, &c.	
			{		External or Short Saphenous Vein—Chiefly Cutaneous Veins of the Leg.	
				{	Muscular and Articular Veins.	
{	Muscular.					
	{	Profunda, and the Internal or Long Saphenous Vein—Cutaneous, Superficial, Epigastric, Pudic, Circumflex Iliac, deep communicating, &c.				

TABLE OF THE CEREBRAL NERVES.

First, or Olfactory—Its Filaments are distributed to the Nose.

Second, or Optic—To the Retina.

Third, or Motores Oculorum—To the Muscles of the Orbit except the Superior Oblique.

Fourth or Pathetic—To the Superior Oblique Muscle.

Fifth or Trifacial { Ophthalmic—Frontal, Lachrymal, and Nasal.
 Superior Maxillary—Orbital, two to Meckel's Ganglion.
 Dental—Posterior, Middle, and Anterior, Muscular, and Cutaneous.
 Inferior Maxillary—Anterior & Posterior Temporal, Masseteric, Internal Pterygoid, Buccal, Auriculo-Temporal, Inferior Dental, Gustatory.

Sixth or Abducentes—To the External Rectus Muscle.

Seventh.	Portio Dura or Facial Nerve.	{	Connecting Branches—Auditory, Glosso-Pharyngeal, and to the Fifth Nerve its Superior and Inferior Maxillary Branches.	
			Distributive Branches.	Posterior Auricular, Dygastric, Stylo-Hyoid. Temporo-Facial—Gives off Temporal, Malar, and Infra-Orbital. Cervico-Facial—Gives off Supra and Infra Maxillary and Buccal.
			Portio Mollis or Auditory Nerve—Cochlear and Vestibular.	
Eighth.	{	Glosso-Pharyngeal.	Connecting Branches—Sympathetic, Auricular Branch to the Par Vagus and Facial.	
			Distributive Branches—Tympanic, Pharyngeal, Lingual, Tonsillitic, Muscular.	
			Pneumo-Gastric.	Connecting Branches—Spinal Accessory, Sympathetic, Ganglion Inferius of the Glosso-Pharyngeal, Auricular, and Lingual.
Distributive Branches—Superior Laryngeal, Pharyngeal, Cardiac, Inferior Laryngeal or Recurrent, Œsophageal, &c.				
	{	Spinal Accessory.	Connecting Branches—To the Pharyngeal and Superior Laryngeal Branches of the Vagus.	
			Distributive Branches—To the Trapezius and Sterno-mastoid Muscles.	
Ninth or Lingual Nerves	{	Connecting Branches—The Vagus, Sympathetic, Spinal Accessory, and first two Cervical Nerves.		
		Distributive Branches—Descendens Noni, and the Terminal Muscular Filaments.		

TABLE OF THE SPINAL NERVES OF THE HEAD AND NECK.

Cervical Spinal Nerves.	Anterior Primary Branches.	Four upper Cervical Nerves form the Cervical Plexus	Ascending Superficial, are the Superficial Cervical, great Auricular, and smaller Occipital Branch. Descending Superficial are the Acromial and Clavicular. The Deep Branches are the Phrenic, communicating & Muscular; the latter supplying the Trapezius, Levator Anguli Scapulae, Rhomboides, and Rectus Anticus Major.
		Four lower Cervical with the first Dorsal form the Brachial Plexus, whose Branches	Above the Clavicle are Phrenic, Rhomboid, Subclavian, Supra-scapular long or posterior Thoracic, and Branches to the Scaleni and Longus Colli Muscles. Below the Clavicle are the two short or Anterior Thoracic, Median, External and Internal Cutaneous, Nerve of Wrisberg, Ulnar, Sub-scapular, Circumflex, and Musculo Spiral Branches.
	Posterior Primary Branches—To the Muscles & Integument at the back of the Neck and Upper Dorsal Region.		

TABLE OF THE SPINAL NERVES OF THE UPPER EXTREMITY.

The Brachial Plexus gives off below the Clavicle.	Anterior or short	
	Thoracic.	
	Subscapular.	
	Circumflex.	
	External Cutaneous.	
	Internal Cutaneous.	
	Nerve of Wrisberg.	
	Median.	{ Distributed chiefly to the Muscles on the front of the Chest; to some of the Scapular Muscles and those of the Upper extremity as already described
	Ulnar.	
	Musculo-spiral.	

TABLE OF THE SPINAL NERVES OF THE ABDOMEN.

Lumbar Spinal Nerves.	{	4 Upper Lumbar Anterior Primary Branches form the Lumbar Plexus.	{	Musculo { Inferior vel Ilio-hypogastric. Cutaneous { Superior vel Ilio-scrotal. External Cutaneous. Genito-crural vel External Pudic. Anterior Crural vel Femoral. Obturator.
		Posterior Primary Branches.		{ Distributed chiefly to the Muscles of the Lumbar Region and Integument over the Sacrum, as already described.
Sacral Spinal Nerves.	{	3 First Anterior Primary & part of the 4th Sacral Nerves, with the Sacro Lumbalis form the Sacral Plexus which supplies	{	Branches within the Pelvis, viz.:—Visceral and Muscular as already described, Also, Branches External to the Pelvis, which are chiefly Muscular, as already described.
		Posterior Primary Branches.		{ Distributed chiefly to the Muscles and Integument in the Sacral & Gluteal Regions as already described.

TABLE OF THE NERVES OF THE LOWER EXTREMITY.

Supplied by the Lumbar Plexus.	{ External Cutaneous—Divides into Anterior & Posterior Branches.		
	Femoral or Anterior Crural divides into	{ Superficial and Deep Branches	{ Internal & Middle Cutaneous & Muscular, & the long or Internal Saphenous. Supply all the Muscles on the Anterior part of the Thigh, with the exception of the Tensor Vaginæ Femoris.
	{ Obturator—Divides into four Branches which are Muscular as already described.		
	{ External Pudic or Genito-crural—Divides into two Branches, which are distributed to the Integuments, &c.		

Supplied by the Sacral Plexus.	Lesser Ischiatic Nerve.	{ Divides into Muscular and Cutaneous Branches as already described.
	Greater Ischiatic Nerve.	{ Internal Popliteal—Supplies Articular Muscular and Cutaneous Branches; also the External Saphenous Branch, and terminates in the Posterior Tibial, which divides into the two Plantar Nerves.
		{ External Popliteal or Peroneal Nerve—Supplies Articular Muscular and Cutaneous Branches, as already described.
	Superior Gluteal derived from the Sacro-lumbalis of the Sacral Plexus—Divides into 2 Branches which supply the 2 smaller Glutei Muscles, and the Tensor Vagina Femoris.	

TABLE OF THE SYMPATHETIC NERVE OF THE HEAD AND NECK.

Cerebral & Cervical sympathetic nerve.	Superior Cervical Ganglion	{ Branches of Distribution to the Blood Vessels—(Nervi Molles), Pharynx, Larynx, Heart, &c. Branches of Communication are Spinal & Cerebral, 3 or 4 Upper Spinal, Par Vagus, Lingual, &c.
	Middle Cervical or Thyroid Ganglion.	{ Distributive to the Thyroid Gland and Heart, (Middle Cardiac). Communicative to the fifth and sixth Cervical Nerves.
	Inferior Cervical or Vertebral Ganglion.	{ Distributive—The Inferior Cardiac Nerve. Communicative—The last two or three Cervical Nerves forming the Vertebral Plexus.

TABLE OF THE SYMPATHETIC NERVE OF THE ABDOMEN.

Solar Plexus which receives the greater and part of the lesser Splanchnic Nerves & Terminal Twigs of the Par Vagus, forms the	{ Phrenic Plexus. Celiac Plexus—Forms the Gastric, Hepatic, and Splenic. Two Mesenteric Plexuses—The Superior supplies Twigs to the large & small Intestine, and the inferior the large Intestine, and the superior Hæmorrhoidal. Renal Plexus. Supra Renal Plexus. Spermatic Plexus. Aortic Plexus.	
	Hypogastric Plexus, derived chiefly from the Aortic Plexus forms the	{ Vesical Plexus. Prostatic Plexus. Uterine Plexus. Ovarian Plexus. Vaginal and Inferior Hæmorrhoidal Plexuses.
		{ Chiefly to the Pelvic Viscera.
Lumbar and Sacral Ganglionated Cords supply	{ Distribu- tive and	{ The Lumbar indirectly to the Pelvic Viscera thro' the Aortic & Hypogastric Plexuses. The Sacral to the Pelvic Viscera. Communicative Branches—Each with its fellow above and below.

CORRIGENDA.

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- Page 4, Question 8—for “Ginglimus,” read “Ginglymus.”
,, 8, ,, 80—for “Intra,” read “Infra.”
,, 37, ,, 163—read “What is the situation of, &c.”
,, 51, ,, 262—read “each Phalanx developed.”
,, 65, ,, 56—for “Lineæ,” read “Linea.”
,, 67, ,, 8—for “Costi,” read “Costo.”
,, 71, ,, 21—for “Externus,” read “Internus.”
,, 115, ,, 26—for “Fossæ,” read “Fossa.”
,, 132, ,, 46—for “Carotid,” read “Choroid.”

